REMOVAL REPORT
FOR
HUDSON REFINERY
CUSHING, PAYNE COUNTY, OKLAHOMA

March 31, 2000

Prepared for:
Henry Thompson, Jr.
Project Officer
Program Management Branch
EPA-Region 6

Contract No. 68-W6-00013

ecology and environment, inc.
International Specialists in the Environment
1999 Bryan Street, Dallas, Texas 75201
Tel: (214) 245-1000, Fax: (214) 245-1001

recycled paper
DATE: March 31, 2000

TO: Pat Hammack, EPA-Senior OSC
EPA Region 6 Response and Prevention Branch

THRU: Henry Thompson, Jr., PO
EPA Region 6 Program Management Branch

THRU: Chris Quina, STL
Region 6 Superfund Technical Assessment and Response Team

FROM: Stephen Brown, PM
Region 6 Superfund Technical Assessment and Response Team

SUBJ: Removal Report: Hudson Refinery
Cushing, Payne County, Oklahoma
TDD#: S06-98-07-0001
PAN: 062801SFXX
Latitude: 35°59'10" N
Longitude: 96°46'40" W

The geographic coordinates of the Hudson Refinery were determined from reconciliation with a United States Geologic Survey (USGS) 7.5-minute series topographic map (quadrangle) for Cushing, Oklahoma. Coordinates were measured from the center of the site using a 5-second topo-aid template. The map has a scale of 1:24,000 and a National Geodetic Vertical Datum of 1929.

Due to the complexity of the removal assessment, and removal support aspects of the U.S. Environmental Protection Agency (EPA) action at the Hudson Refinery, all of the removal assessment actions are included in the report for TDD# S06-99-02-0004.
TDD# S06-98-07-0001 and Amendments A-N
Activity Type: IV.A.0 Removal Assessments
Estimated Completion Date: 03/30/99

Site/Project Name: Hudson Oil Refinery Co., Inc.
Street Address: 401 West Maple
County Name: Payne
City, State, Zip: Cushing, OK
SSID #: CERCLIS #: OKD082471988

Funds Source: CERCLA
DCN #(s): BER071 (AOU) CERCLA $218,023.00

TDD Expenditure Limit: $218,023.00
Estimated Cost: $218,023.00
Estimated Hrs: 4,000
Non-Dedicated Hours: 0

Deliverable: Formal Report
Overtime: Yes
Reference: Yes - Comment 3

Specific Element(s): Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work-08/02/94

Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

Standard Language: Coordinate with Task Monitor

A. TDD Created By: - Signed by William Jernigan/R6/USEPA/US on 07/01/98 01:16:19 PM, according to / 07/01/98
William Jernigan
Signed On:

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 07/06/98 12:41:16 PM, acco
### Technical Direction Document

**Amendment**

**START CONTRACT #: 68-W6-0013**

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<thead>
<tr>
<th>Activity Type:</th>
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<tr>
<td>Task:</td>
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**Created On: 08/17/98**

**DPO/PO:** Thompson

**Task Monitor:** Engblom R.  
(214/665-8341)

**Task Codes:** SF; RS

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<th>Site/Project Name:</th>
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<tbody>
<tr>
<td>Street Address:</td>
<td>401 West Maple</td>
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<td>County Name:</td>
<td>Payne</td>
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<tr>
<td>City, State, Zip:</td>
<td>Cushing, OK</td>
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**Funds Source:** CERCLA

**DCN #s:**  
BER071 (AUO) CERCLA $7,964.00

**Deliverable:** Formal Report

**Overtime:** Yes

**Reference:** No

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**Staffing:** Dedicated Staff

**Priority:** High

**Start Date:** 07/01/98

### Specific Element(s):

- Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

### Comments:

- This amendment adds funding and the following tasks:
  a. Obtain existing aerial photography of site, and
  b. Obtain new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

### Original Comments:

1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;

Amendment #06-98-07-0001-A Printed On 08/17/98 at 12:31:29 PM
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by William Jernigan/R6/USEPA/US on 08/14/98 12:16:01 PM, according to / 08/14/98 Signed On:

William Jernigan

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 08/17/98 10:41:30 AM, acco

Contract Officer: Tobin Osterberg 08/17/98 Signed On:

Amendment #06-98-07-0001-A Printed On 08/17/98 at 12:31:29 PM
**EPA**

**Technical Direction Document**

**Amendment**

START CONTRACT #: 68-W6-0013

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<td>Completion Date: 03/30/99</td>
<td>Task Monitor: Engblom R.</td>
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<td>(214/665-8341)</td>
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<td>Task Codes: SF; RS</td>
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</table>

| Site/Project Name: Hudson Oil Refinery Co., Inc. | Estimated Cost: $30,524.00 |
| Street Address: 401 West Maple                  | Estimated Hrs: 0 |
| County Name: Payne                              | Dedicated: 0 |
| City, State, Zip: Cushing, OK                    | Non-Dedicated: 0 |
| SSID #: CERCLIS #: OKD082471988                  |

| Funds Source: CERCLA                              |
| DCN #(#s): BER071 (AUO) CERCLA $30,524.00         |

| TDD Expenditure Limit: $256,511.00                |
| Hours: 4,000                                      |
| Dedicated Hours: 4,000                            |
| Non-Dedicated Hours: 0                            |

| Staffing: Dedicated Staff                         |
| Priority: High                                   |
| Start Date: 07/01/98                             |

Specific Element(s): Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

**Comments:**
This amendment adds funding and the following task:

a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and
b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

**Amendment A Comment:**
Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

**Original Comments:**
1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital)

Amendment #06-98-07-0001-B Printed On 08/25/98 at 05:02:32 PM
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

Standard Language: Coordinate with Task Monitor

A. TDD Created By: - Signed by William Jemigan/R6/USEPA/US on 08/25/98 02:42:56 PM, according to / 08/25/98
William Jemigan

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 08/25/98 04:46:46 PM, acce
Technical Direction Document

Amendment

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<td>Engblom R.</td>
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<td>Task Codes:</td>
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| Site/Project Name: | Hudson Oil Refinery Co., Inc. |
| Street Address:    | 401 West Maple               |
| County Name:       | Payne                       |
| City, State, Zip:  | Cushing, OK                 |
| SSID #:            | OKD082471988                |

| Estimated Cost:    | $2,840.00                  |
| Estimated Hrs:     | 0                          |
| Dedicated:         | 0                          |
| Non-Dedicated:     | 0                          |

| Funds Source:      | CERCLA                      |
| DCN #:            | SCR007 (BGW) CERCLA $2,840.00 |

| TDD Expenditure Limit: | $259,351.00 |
| Hours:                | 4,000        |
| Dedicated Hours:      | 4,000        |
| Non-Dedicated Hours:  | 0            |

| Deliverable:        | Formal Report          |
| Overtime:           | Yes                     |
| Reference:          | No                      |
| Staffing:           | Dedicated Staff        |
| Priority:           | High                    |
| Start Date:         | 07/01/98               |

Specific Element(s): Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

Comments: This amendment adds funding and the following task: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-96-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;

Amendment #06-98-07-0001-C Printed On 10/09/98 at 04:23:02 PM
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

Standard Language: Coordinate with Task Monitor

A. TDD Created By: - Signed by William Jernigan/R6/USEPA/US on 10/07/98 03:26:20 PM, according to /  
   Signed On: 10/06/98

William Jernigan

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 10/08/98 12:36:55 PM, accor
   Signed On: 10/08/98

Tobin Osterberg
EPA

Technical Direction Document
Amendment

START CONTRACT #: 68-WB-0013

Activity Type: IV.A.0 Removal Assessments
Task: Large
Completion Date: 03/30/99

Created On: 11/03/98
DPO/PO: Thompson
Task Monitor: Engblom R.
(214/665-8341)
Task Codes: SF; RS

Site/Project Name: Hudson Oil Refinery Co., Inc.
Street Address: 401 West Maple
County Name: Payne
City, State, Zip: Cushing, OK
SSID #: CERCLIS #: OKD082471988

Estimated Cost: $291,274.00
Estimated Hrs: 5,200
Dedicated: 5,200
Non-Dedicated: 0

Funds Source: CERCLA
DCN #(s):
SCR007 (BGW) CERCLA $291,274.00

Deliverable: Formal Report
Overtime: Yes
Reference: No

TDD Expenditure Limit: $550,625.00
Hours: 9,200
Dedicated Hours: 9,200
Non-Dedicated Hours: 0

Staffing: Dedicated Staff
Priority: High
Start Date: 07/01/98

Specific Elements:
1. Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work—08/02/94

Comments: This amendment:
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates: Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site and
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment #06-98-07-0001-D Printed On 11/03/98 at 15:28:09
Amendment C Comment: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $8,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
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7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

Standard Language: Coordinate with Task Monitor

A. TDD Created By: - Signed by Tobin Osterberg/R6/USEPA/US on 11/03/98 10:26:54, according to USEP

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 11/03/98 10:26:54, according to USEP

Contract Officer: Tobin Osterberg  
11/03/98  
Signed On: Schmidt

Amendment #06-98-07-0001-D Printed On 11/03/98 at 15:28:09
## EPA Technical Direction Document Amendment

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| Funds Source: | CERCLA |
| DCN #(s): | SCR007 (BGW) CERCLA $1,834.00 |

| TDD Expenditure Limit: | $552,459.00 |
| Hours:                | 9,200       |
| Dedicated Hours:      | 9,200       |
| Non-Dedicated Hours:  | 0           |

| Deliverable: | Formal Report |
| Overtime:    | Yes           |
| Reference:   | No            |

| Staffing: | Dedicated Staff |
| Priority: | High           |
| Start Date: | 07/01/98 |

### Specific Element(s):
- Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work 08/02/94

### Comments:
This amendment directs the contractor to provide analytical services to support air sampling for asbestos abatement activities (estimated cost $1,485).

#### Amendment D Comment:
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site; and

Amendment #06-98-07-0001-E Printed On 12/01/98 at 04:27:54 PM
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760). and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026);
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by Tobin Osterberg/R6/USEPA/US on 12/01/98 04:24:47 PM, according to /U

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 12/01/98 04:24:46 PM, according to /U

Contract Officer: Tobin Osterberg

12/01/98
Signed On:
## Technical Direction Document Amendment

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### Specific Element(s):
- Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work—08/02/94

### Comments:
This amendment directs the contractor to perform bioremediation sampling and validate results (estimated cost $3,488).

**Amendment D Comment:**

(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site; and

---

Amendment #06-98-07-0001-F Printed On 12/07/98 at 02:14:16 PM
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

**Amendment C Comment:** Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

**Amendment B Comment:**
- a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and
- b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

**Amendment A Comment:** Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

**Original Comments:**
1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

**Standard Language:** Coordinate with Task Monitor

**A. TDD Created By:** - Signed by William Jernigan/R6/USEPA/US on 12/04/98 09:41:46 AM, according to /R 12/04/98

William Jernigan
Signed On:

**B. Reviewed and Approved By:** - Signed by Tobin Osterberg/R6/USEPA/US on 12/07/98 08:48:04 AM, accor

Contract Officer:
Tobin Osterberg
12/07/98
Signed On:
Technical Direction Document
Amendment

START CONTRACT #: 68-W6-0013

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| Created On: | 02/05/99 |
| DPO/PO:     | Thompson |
| Task Monitor: | Engblom R. |
| (214/665-8341) |          |
| Task Codes: | SF; RS   |

| Site/Project Name: | Hudson Oil Refinery Co., Inc. |
| Street Address:    | 401 West Maple |
| County Name:       | Payne           |
| City, State, Zip:  | Cushing, OK     |
| SSID #:            | EE              |
| CERCLIS #:         | OKD082471988    |

| Estimated Cost: | $19,113.00 |
| Estimated Hrs: | 0           |
| Dedicated:     | 0           |
| Non-Dedicated: | 0           |

| Funds Source: | CERCLA |
| DCN #(s):     | SCR007 (BGW) CERCLA $19,113.00 |

| Deliverable: | Formal Report |
| Overtime:    | Not Applicable |
| Reference:   | No             |

| TDD Expenditure Limit: | $575,879.00 |
| Hours:                | 9,200       |
| Dedicated Hours:      | 9,200       |
| Non-Dedicated Hours:  | 0            |

| Staffing: | Dedicated Staff |
| Priority: | High           |
| Start Date: | 07/01/98 |

Specific Element(s): Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work—08/02/94

Comments: This amendment (Amendment G): provides analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost . $ 19,113)

Amendment F Comments: Perform bioremediation sampling and validate results (estimated cost $3,488).

Amendment E Comments: Provide analytical services to support air sampling for asbestos abatement activities (estimated cost $1,485).

Amendment D Comment:
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.

(c) assigns task to conduct bioremediation pilot study as needed;

(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);

(e) assigns task to conduct asbestos survey on north side of site; and

(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor’s DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by Tobin Osterberg/R6/USEPA/US on 02/05/99 02:09:51 PM, according to /

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 02/05/99 02:09:51 PM, accor
**Technical Direction Document**

**Amendment**

**START CONTRACT #:** 68-W6-0013

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| Created On: | 04/02/99 |
| DPO/PO:     | Thompson |
| Task Codes: | SF; RS   |

| Site/Project Name: | Hudson Oil Refinery Co., Inc. |
| Street Address:   | 401 West Maple |
| County Name:      | Payne          |
| City, State, Zip: | Cushing, OK    |
| SSID #:           | EE            |
| CERCLIS #:        | OKD082471988  |

| Estimated Cost: | $0.00 |
| Estimated Hrs:  | 0     |
| Dedicated: 0    |
| Non-Dedicated: 0 |

| Funds Source: | CERCLA |
| DCN #(s):     | SCR007 (BGW) CERCLA $0.00 |

| Estimated Cost: | $0.00 |
| Deliverable:    | Formal Report |
| Overtime:       | Yes |
| Reference:      | No |

| TDD Expenditure Limit: | $575,879.00 |
| Hours: 9,200 |
| Dedicated Hours: 9,200 |
| Non-Dedicated Hours: 0 |

| Staffing: | Dedicated Staff |
| Priority: | High |
| Start Date: | 07/01/98 |

**Specific Element(s):** Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

**Comments:** This amendment (Amendment H) extends the completion date to 9/30/99 due to continuing work at the Hudson Refinery Site.

**Amendment G Comments:** 

Provide analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost. $19,113)

**Amendment F Comments:** 

Provide bioremediation sampling and validate results (estimated cost $3,488).

**Amendment E Comments:** 

Provide analytical services to support air sampling for asbestos abatement activities (estimated cost $1,485).

**Amendment D Comment:** 

(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining)

Amendment #06-98-07-0001-H Printed On 04/05/99 at 09:30:19 AM
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.

(c) assigns task to conduct bioremediation pilot study as needed;

(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);

(e) assigns task to conduct asbestos survey on north side of site; and

(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment:: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,750), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by Cora Stanley/R6/USEPA/US on 04/02/99 03:58:16 PM, according to USE

B. Reviewed and Approved By: - Signed by Cora Stanley/R6/USEPA/US on 04/02/99 03:58:16 PM, according to

Contract Officer: Cora Stanley

Signed On:

Amendment #06-98-07-0001-H Printed On 04/05/99 at 09:30:19 AM
# Technical Direction Document

**Amendment** 06-98-07-0001-I

**START CONTRACT #:** 68-W6-0013

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**Created On:** 05/04/99  
**DPO/PO:** Thompson  
**Task Monitor:** Engblom R.  
**Task Codes:** SF; RS  

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**Estimated Cost:** $10,984.00  
**Estimated Hrs:** 0  
**Dedicated:** 0  
**Non-Dedicated:** 0  

**Funds Source:** CERCLA  
**DCN #:** SCR007 (BGW) CERCLA $10,984.00  
**Deliverable:** Formal Report  
**Overtime:** Not Applicable  
**Reference:** No  

**TDD Expenditure Limit:** $586,863.00  
**Hours:** 9,200  
**Dedicated Hours:** 9,200  
**Non-Dedicated Hours:** 0  
**Staffing:** Dedicated Staff  
**Priority:** High  
**Start Date:** 07/01/98  

**Specific Element(s):** Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94  

**Comments:** This Amendment (Amendment I) is to provide analytical services for Tetraethyl Lead SKC tubes (42 samples). Provide onscene analysis with HAPSITE for Tetraethyl Lead. And provide carrier gas and internal standard gas to run HAPSITE for Tetraethyl Lead. (Est. Cost $10,984)

Amendment H Comments: extended the completion date to 9/30/99 due to continuing work at the Hudson Refinery Site.

Amendment G Comments:  
provide analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost . $ 19,113)

Amendment F Comments:  
Perform bioremediation sampling and validate results (estimated cost $3,488).

Amendment E Comments:  
Provide analytical services to support air sampling for asbestos abatement activities

Amendment #06-98-07-0001-I Printed On 05/05/99 at 08:57:52 AM
Amendment D Comment:
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site; and
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by Rita Engblom/R6/U.S.EPA/US on 04/28/99 12:06:04 PM, according to /US

Rita Engblom
Signed On: 04/28/99

B. Reviewed and Approved By: - Signed by Cora Stanley/R6/U.S.EPA/US on 05/04/99 04:52:36 PM, according to

Contract Officer: 
Cora Stanley
Signed On: 05/04/99

Amendment #06-98-07-0001-I Printed On 05/05/99 at 08:57:52 AM
### Technical Direction Document

**Amendment 06-98-07-0001-J**

**START CONTRACT #:** 68-W6-0013

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<td>Completion Date:</td>
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| Created On: | 05/19/99 |
| DPO/PO:     | Thompson  |
| Task Monitor: | Engblom R.  |
| (214/665-8341) |
| Task Codes: | SF; RS |

| Site/Project Name: | Hudson Oil Refinery Co., Inc. |
| Street Address:    | 401 West Maple |
| County Name:       | Payne          |
| City, State, Zip:  | Cushing, OK    |
| SSID #:            | EE            |
| CERCLIS #:         | OKD082471988  |

| Estimated Cost: | $29,562.50 |
| Estimated Hrs:  | 0           |
| Dedicated:      | 0           |
| Non-Dedicated:  | 0           |

| Funds Source:    | CERCLA       |
| DCN #(#s):       | SCR007 (BGW) CERCLA $29,562.50 |

| TDD Expenditure Limit: | $616,425.50 |
| Hours:                 | 9,200       |
| Dedicated Hours:       | 9,200       |
| Non-Dedicated Hours:   | 0           |

| Staffing: | Dedicated Staff |
| Priority: | High           |
| Start Date: | 07/01/98      |

**Specific Element(s):** Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

**Comments:**
This Amendment (Amendment J) is to (a) provide air sampling capabilities with SKC sampling pumps equipped with appropriate collection tubes for detection of TEL. (b) provide analytical services for an additional 167 SKC TEL collection tubes (3 day turnaround) and 31 SKC TEL collection tubes (24 hour) including QC sampling at $29,562.50.

**Amendment I Comments:**
Provide analytical services for Tetraethyl Lead SKC tubes (42 samples) at $6,095. Provide onscene analysis with HAPSITE for Tetraethyl Lead. And provide carrier gas and internal standard gas to run HAPSITE for Tetraethyl Lead. (Est. Cost $10,984)

**Amendment H Comments:** extended the completion date to 9/30/99 due to continuing work at the Hudson Refinery Site.

**Amendment G Comments:**
Provide analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost $19,113)

**Amendment F Comments:**
Perform bioremediation sampling and validate results (estimated cost $3,488).

Amendment E Comments:
  Provide analytical services to support air sampling for asbestos abatement activities
  (estimated cost $1,485).

Amendment D Comment:
  (a) adds LOE and funding based on total project duration of 9 months (estimated 5 months
      remaining);
  (b) assigns task to conduct bioremediation assessment of contaminated soils and sludges,
      including development of a workplan and cost estimates; Costs for bioremediation will be
      allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on
      occurrence of type of contaminant.
  (c) assigns task to conduct bioremediation pilot study as needed;
  (d) assigns procurement for analytical services for samples gathered under the
      bioremediation plan and for analytical support for daily monitoring of asbestos in work areas
      (results reported with one-day turnaround to enable determination of personnel protection
      equipment requirements) (estimated costs to be determined and funded by subsequent
      amendment);
  (e) assigns task to conduct asbestos survey on north side of site; and
  (f) authorizes procurement of asbestos safety awareness videotape and references
      (estimated cost $605).

Amendment C Comment:: Obtain asbestos inspector training and certification for six contractor
personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated
cost $20,760), and b. Arrange for analytical services to support air sampling throughout
asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical
services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
  2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
  3) Review background/previous investigation reports and incorporate findings into current
     investigation (TDD 06-98-01-0026)
  4) Develop draft QASP in accordance with Task Monitor’s DQOs (to be determined based on
     on-site reconnaissance) and submit for approval;
  5) Arrange for analytical services to support QASP;
  6) Implement approved QASP (costs to be determined);
  7) Photodocument site conditions and activities (transfer all photographs to digital
     format/CD-ROM);
  8) Validate data and tabulate findings;
  9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate
     disposal options and associated costs.

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A. TDD Created By: - Signed by Rita Engblom/R6/USEPA/US on 05/18/99 04:10:45 PM, according to /US
   Rita Engblom
   Signed On: 05/18/99

B. Reviewed and Approved By: - Signed by Carlene Chambers/R6/USEPA/US on 05/19/99 12:57:31 PM, acc
   Project Officer: Carlene Chambers
   Signed On: 05/19/99

Amendment #06-98-07-0001-J Printed On 05/19/99 at 01:04:03 PM
### Technical Direction Document

**Amendment**

**EPA Amendment 06-98-07-0001-K**

**START CONTRACT #:** 68-W6-0013

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<td>Completion Date:</td>
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| Created On: | 06/02/99 |
| DPO/PO:     | Thompson |
| Task Monitor: | Engblom R.  |
|             | (214/665-8341)     |
| Task Codes: | SF; RS         |

| Site/Project Name: | Hudson Oil Refinery Co., Inc. |
| Street Address:    | 401 West Maple               |
| County Name:       | Payne                       |
| City, State, Zip:  | Cushing, OK                 |
| SSID #:            | EE                        |
| CERCLIS #:         | OKD082471988                |

| Estimated Cost: | $0.00 |
| Estimated Hrs:  | 0     |
| Dedicated:      | 0     |
| Non-Dedicated:  | 0     |

| Funds Source:    | CERCLA     |
| DCN #():        | SCR007 (BGW) |
|                 | CERCLA $0.00 |

| TDD Expenditure Limit: | $616,425.50 |
| Hours:                | 9,200       |
| Dedicated Hours:      | 9,200       |
| Non-Dedicated Hours:  | 0           |

| Deliverable: | Formal Report |
| Overtime:    | Not Applicable |
| Reference:   | No             |

| Staffing: | Dedicated Staff |
| Priority: | High            |
| Start Date: | 07/01/98      |

**Specific Element(s):** Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

**Comments:** This Amendment (Amendment K) is to provide an XRF at the Site on June 8, 1999 (estimated duration 2 to 3 weeks) for field screening to determine the extent of lead contamination in the soil around TEL tanks.

Amendment J: is to (a) provide air sampling capabilities with SKC sampling pumps equipped with appropriate collection tubes for detection of TEL. (b) provide analytical services for an additional 167 SKC TEL collection tubes (3 day turnaround) and 31 SKC TEL collection tubes (24 hour) including QC sampling at $29,562.50.

Amendment I Comments: provide analytical services for Tetraethyl Lead SKC tubes (42 samples) at $6,095. Provide onscene analysis with HAPSITE for Tetraethyl Lead. And provide carrier gas and internal standard gas to run HAPSITE for Tetraethyl Lead. (Est. Cost $10,984)

Amendment H Comments: extended the completion date to 9/30/99 due to continuing work at the Hudson Refinery Site.

Amendment G Comments:

Amendment #06-98-07-0001-K Printed On 06/02/99 at 04:32:24 PM
provide analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost $19,113)

Amendment F Comments:
Perform bioremediation sampling and validate results (estimated cost $3,488).

Amendment E Comments:
Provide analytical services to support air sampling for asbestos abatement activities (estimated cost $1,485).

Amendment D Comment:
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates: Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site; and
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment:: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor's DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by Rita Engblom/R6/USEPA/US on 05/24/99 05:45:39 PM, according to /US

   Rita Engblom
   Signed On: 05/24/99

B. Reviewed and Approved By: - Signed by Cora Stanley/R6/USEPA/US on 06/02/99 12:27:31 PM, according to /US

   Contract Officer:
   Cora Stanley
   Signed On: 06/02/99

Amendment #06-98-07-0001-K Printed On 06/02/99 at 04:32:24 PM
Specific Element(s): Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

Comments: This Amendment (Amendment L) is to provide an assessment of the Hydro-Desulfurization Unit (HDU) that is a part of the north refinery. Provide a neutron back scanner with operator (estimated rental costs $20,000). Provide engineering review of any documents found on Site pertaining to the HDU (blueprints, manuals) and assess the integrity of the HDU (inspect pipes, vessels and towers). Additionally, Amendment K should be revised to show that samples are being collected on-site and shipped back to Dallas for lead analysis with XRF.

Amendment K) is to provide an XRF at the Site on June 8, 1999 (estimated duration 2 to 3 weeks) for field screening to determine the extent of lead contamination in the soil around TEL tanks.
Amendment J: is to (a) provide air sampling capabilities with SKC sampling pumps equipped with appropriate collection tubes for detection of TEL. (b) provide analytical services for an additional 167 SKC TEL collection tubes (3 day turnaround) and 31 SKC TEL collection tubes (24 hour) including QC sampling at $29,562.50.

Amendment I Comments: provide analytical services for Tetraethyl Lead SKC tubes (42 samples) at $6,095. Provide onscene analysis with HAPSITE for Tetraethyl Lead. And provide carrier gas and internal standard gas to run HAPSITE for Tetraethyl Lead. (Est. Cost $10,984)

Amendment H Comments: extended the completion date to 9/30/99 due to continuing work at the Hudson Refinery Site.

Amendment G Comments:
provide analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost $ 19,113)

Amendment F Comments:
Perform bioremediation sampling and validate results (estimated cost $3,488).

Amendment E Comments:
Provide analytical services to support air sampling for asbestos abatement activities (estimated cost $1,485).

Amendment D Comment:
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site; and
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment:
Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor’s DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate
disposal options and associated costs.

A. TDD Created By: - Signed by Rita Engblom/R6/USEPA/US on 06/17/99 06:02:35 AM, according to /US

Rita Engblom
06/17/99
Signed On:

B. Reviewed and Approved By: - Signed by Cora Stanley/R6/USEPA/US on 06/18/99 01:01:45 PM, according to Contract Officer:

Cora Stanley
06/18/99
Signed On:

Amendment #06-98-07-0001-L Printed On 06/21/99 at 09:43:12 AM
**Specific Element(s):** Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

**Comments:** Amendment M changes the task monitor and the completion date.

This Amendment (Amendment L) is to provide an assessment of the Hydro-Desulfurization Unit (HDU) that is a part of the north refinery. Provide a neutron back scanner with operator (estimated rental costs $20,000). Provide engineering review of any documents found on Site pertaining to the HDU (blueprints, manuals) and assess the integrity of the HDU (inspect pipes, vessels and towers). Additionally, Amendment K should be revised to show that samples are being collected on-site and shipped back to Dallas for lead analysis with XRF.

Amendment K is to provide an XRF at the Site on June 8, 1999 (estimated duration 2 to 3 weeks) for field screening to determine the extent of lead contamination in the soil around TEL tanks.
Amendment J: is to (a) provide air sampling capabilities with SKC sampling pumps equipped with appropriate collection tubes for detection of TEL. (b) provide analytical services for an additional 167 SKC TEL collection tubes (24 hour) including QC sampling at $29,562.50.

Amendment I Comments: provide analytical services for Tetraethyl Lead SKC tubes (42 samples) at $6,095. Provide onscene analysis with HAPSITE for Tetraethyl Lead. And provide carrier gas and internal standard gas to run HAPSITE for Tetraethyl Lead. (Est. Cost $10,984)

Amendment H Comments: extended the completion date to 9/30/99 due to continuing work at the Hudson Refinery Site.

Amendment G Comments: provide analytical services for an additional 500 asbestos air samples and adds analytical services for 22 oily waste samples for disposal profiling (including VOA, Semi-VOA, RCRA Metals, Zinc) (Est. Cost $ 19,113)

Amendment F Comments: Perform bioremediation sampling and validate results (estimated cost $3,488).

Amendment E Comments: Provide analytical services to support air sampling for asbestos abatement activities (estimated cost $1,485).

Amendment D Comment: 
(a) adds LOE and funding based on total project duration of 9 months (estimated 5 months remaining);
(b) assigns task to conduct bioremediation assessment of contaminated soils and sludges, including development of a workplan and cost estimates; Costs for bioremediation will be allocated between CERCLA TDD 06-98-07-0001 and OPA TDD 06-98-01-0026 based on occurrence of type of contaminant.
(c) assigns task to conduct bioremediation pilot study as needed;
(d) assigns procurement for analytical services for samples gathered under the bioremediation plan and for analytical support for daily monitoring of asbestos in work areas (results reported with one-day turnaround to enable determination of personnel protection equipment requirements) (estimated costs to be determined and funded by subsequent amendment);
(e) assigns task to conduct asbestos survey on north side of site; and
(f) authorizes procurement of asbestos safety awareness videotape and references (estimated cost $605).

Amendment C Comment: Obtain asbestos inspector training and certification for six contractor personnel (estimated cost $2,300) for performance of asbestos abatement activities.

Amendment B Comment: a. Per Original Comment 6, arrange for analytical services (estimated cost $20,760), and b. Arrange for analytical services to support air sampling throughout asbestos abatement activities (estimated cost $3,960).

Amendment A Comment: Obtain existing and new aerial photography and provide analytical services to create digitized maps from aerial photography (estimated cost $6,450).

Original Comments: 1) Obtain site access;
2) Conduct on-site reconnaissance with EPA and ODEQ on 7/8/98;
3) Review background/previous investigation reports and incorporate findings into current investigation (TDD 06-98-01-0026)
4) Develop draft QASP in accordance with Task Monitor’s DQOs (to be determined based on on-site reconnaissance) and submit for approval;
5) Arrange for analytical services to support QASP;
6) Implement approved QASP (costs to be determined);
7) Photodocument site conditions and activities (transfer all photographs to digital format/CD-ROM);
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate
disposal options and associated costs.

A. TDD Created By: - Signed by Patrick Hammack/R6/USEPA/US on 10/19/99 03:00:14 PM, according to 10/19/99

Patrick Hammack

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 10/20/99 04:38:14 PM, accor

Contract Officer:  
Tobin Osterberg

Amendment #06-98-07-0001-M Printed On 10/21/99 at 09:56:57 AM
EPA

Technical Direction Document
Amendment

START CONTRACT #: 68-W6-0013

Activity Type: IV.A.0 Removal Assessments
Task: large
Completion Date: 03/31/2000
Created On: 02/24/2000
DPO/PO: Thompson
Task Monitor: Hammack P.
(214/665-2214)
Task Codes: SF; RS

Site/Project Name: Hudson Oil Refinery Co., Inc.
Street Address: 401 West Maple
County Name: Payne
City, State, Zip: Cushing , OK
SSID #: EE CERCLIS #: OKD082471988

Estimated Cost :$0.00
Estimated Hrs: 0
Dedicated:0
Non-Dedicated:0

Funds Source: CERCLA
DCN #(#s):
SCR038 (AG5) CERCLA $0.00

Deliverable:
Acknowledgment of
Completion only
Overtime: Not Applicable
Reference: No

TDD Expenditure Limit: $646,429.50
Hours: 9,400
Dedicated Hours: 9,400
Non-Dedicated Hours: 0
Staffing: Dedicated Staff
Priority: High
Start Date: 07/01/98

Specific Element(s): Collect Multimedia Samples, Compile & Review Background Data, Coordinate with Federal, State & Local Authorities, Document On-Site Activities, Document Site Access, Maintain Site Log Book, Prepare Quality Assurance Sampling Plan, Prepare Site Sketch/Map, Prepare Waste Assessment (HAZCAT), Procure Laboratory Services, Provide Print Photo Documentation, Provide Digitized Photo Documentation, Research & Recommend Analytical Scope & Methods, Review Validation of Analytical Laboratory Results, Review Site Records/Technical Documents, Refer to Statement of Work--08/02/94

Comments: Amendment N is an administrative amendment to change report format to AOC only. All information generated under this TDD will be included in formal report for TDD S06-99-02-0004. Completion date changed to 3/31/00.

Amendment M changes the task monitor and the completion date.

This Amendment (Amendment L) is to provide an assessment of the Hydro-Desulfurization Unit (HDU) that is a part of the north refinery. Provide a neutron back scanner with operator (estimated rental costs $20,000). Provide engineering review of any documents found on Site pertaining to the HDU (blueprints, manuals) and assess the integrity of the HDU (inspect pipes, vessels and towers). Additionally, Amendment K should be revised to show that samples are being collected on-site and shipped back to Dallas for lead analysis with XRF.

SCMS R6 Database - 1. TDDs \ A. By Month Printed On 02/29/2000 at 08:21:12 AM

027591
8) Validate data and tabulate findings;
9) Determine the extent of contamination, estimate waste volumes (source/soil) and evaluate disposal options and associated costs.

A. TDD Created By: - Signed by Patrick Hammack/R6/USEPA/US on 02/22/2000 03:51:59 PM, according to

B. Reviewed and Approved By: - Signed by Tobin Osterberg/R6/USEPA/US on 02/24/2000 02:09:07 PM, acc