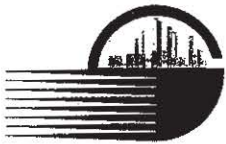


Appendix T - SWMU Information



WYNNEWOOD
REFINING COMPANY
A Gary-Williams Energy Corporation Subsidiary

August 15, 2000

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Ms. Hillary Young
Oklahoma Department of Environmental Quality
Waste Management Division
P. O. Box 1677
Oklahoma City, OK 73101-1677

Subject: RCRA Corrective Action, Permit No. 000396549

Dear Ms. Young:

Based on the RCRA correction action criteria for designating an Environmental Indicator (EI) RCRIS code, Wynnewood Refining Company (WRC) has achieved indicator codes CA725 (Current Human Exposures Under Control) and CA750 (Migration of Contaminated Groundwater Under Control).

With one exception (the northern leaded tank bottoms disposal area), WRC has completed correction action for all SWMUs identified at the facility that are subject to RCRA Corrective Action. The Oklahoma Department of Environmental Quality has agreed to defer any further RFI for the northern leaded tank bottoms disposal area until remediation of a free-product plume in proximity. However, since this area is contained within tank dikes under refinery security and has not shown EP toxicity levels of concern for lead, WRC does not consider this to be a hazard to the environment.

We have made substantial efforts to achieve our corrective action goals. Since the rationale is included in the many documents that have been provided to your office, we have only included references to these documents in this submittal. If you have any questions, please contact me at (405) 665-6655.

Sincerely,

Wynnewood Refining Company

Chris Hawley
Environmental Manager

Cc: Dave Roderick

Documentation of Environmental Indicator Determination

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: WYNNEWOOD REFINING COMPANY
Facility Address: 906 S. POWELL, WYNNEWOOD, OK 73098
Facility EPA ID #: OKD 000 396 549

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRAs). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

**Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)**

Page 2

2. Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be "contaminated" above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	—	✓	—	
Air (indoors) ²	—	✓	—	
Surface Soil (e.g., <2 ft)	—	✓	—	
Surface Water	—	✓	—	
Sediment	—	✓	—	
Subsurf. Soil (e.g., >2 ft)	—	✓	—	
Air (outdoors)	—	✓	—	

— If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

— If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

— If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and

Reference(s): INCLUDED IN:

LETTER 2/3/98, ODEQ TO WRC (ATTACHED)

LETTER 10/3/96, ODEQ TO WRC (ATTACHED)

LETTER 4/8/96, WRC TO ODEQ (ATTACHED)

RCRA FACILITY INVESTIGATIONS PHASE I, II, III (WRC & ODEQ FILES)

POSTCLOSURE MONITORING REPORTS FOR STORMWATER RETENTION POND (WRC & ODEQ FILES)

RCRA PART B PERMIT 000396549 (WRC & ODEQ FILES)

HYDROCARBON RECOVERY PROGRAM/REPORTS (WRC & ODEQ FILES)

Footnotes:

¹ "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

Page 3

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

<u>"Contaminated" Media</u>		Residents Workers Day-Care Construction Trespassers				
Recreation Food ³						
Groundwater	_____	_____	_____	_____		_____
Air (indoors)	_____	_____	_____			
Soil (surface, e.g., <2 ft)	_____	_____		_____	_____	_____
Surface Water	_____	_____			_____	_____
Sediment	_____	_____			_____	_____
Soil (subsurface e.g., >2 ft)			_____			
Air (outdoors)	_____	_____		_____	_____	_____

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- _____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- _____ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.
- _____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and

Reference(s):

etc.)³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish,

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

Page 4

- 4 Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be "significant"⁴ (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

- _____ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE"

_____ If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

Rationale and Reference(s):

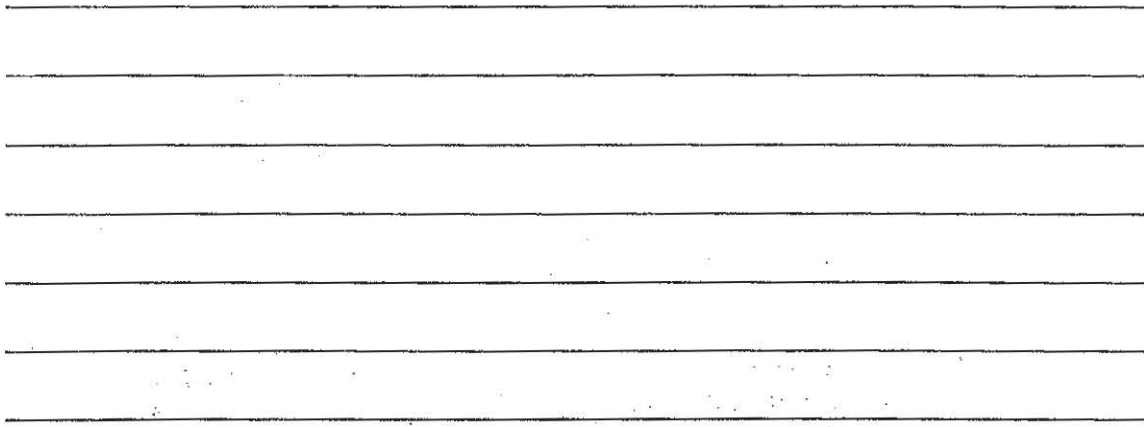
⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

Page 5

If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a standard ruled sheet of paper. There is no handwriting or other markings on the page.



Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

Page 6

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

☒ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the WYNNEWOOD REFINING COMPANY facility, EPA ID # OKD 000396549, located at 906 S. POWELL WYNNEWOOD, OK under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

☐ NO - "Current Human Exposures" are NOT "Under Control."

☐ IN - More information is needed to make a determination.

Completed by (signature) Chris Hawley Date 8/15/00
(print) CHRIS HAWLEY
(title) ENVR. MANAGER

Supervisor (signature) _____ Date _____
(print) _____
(title) _____
(EPA Region or State) _____

Locations where References may be found:

WYNNEWOOD REFINING COMPANY
906 S. POWELL, P.O. BOX 305, WYNNEWOOD, OK 73098

OKLAHOMA DEPT. OF ENVIRONMENTAL QUALITY
707 N. ROBINSON, OKLAHOMA CITY, OK 73102

Contact telephone and e-mail numbers

(name) CHRIS HAWLEY
(phone #) 405-665-6655
(e-mail) chawley@GWEC.com

final Note: The Human Exposures EI is a Qualitative Screening of exposures and the determinations within this document should not be used as the sole basis for restricting the scope of more detailed (e.g., site-specific) assessments of risk.

Documentation of Environmental Indicator Determination

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: WYNNEWOOD REFINING COMPANY
Facility Address: 906 S. POWELL WYNNEWOOD, OK 73098
Facility EPA ID #: OKD 000 396 549

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and

the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 2

2. Is groundwater known or reasonably suspected to be "contaminated" above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_____ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

☒ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and

Reference(s): INCLUDED IN:

LETTER 2/3/98, ODEQ TO WRC (ATTACHED)

LETTER 10/3/96, ODEQ TO WRC (ATTACHED)

LETTER 4/8/96, WRC TO ODEQ (ATTACHED)

RCRA FACILITY INVESTIGATIONS PHASE I, II, III (WRC & ODEQ FILES)

POSTCLOSURE MONITORING REPORTS FOR SWRP (WRC & ODEQ FILES)

RCRA PART B PERMIT & APPLICATION 000396549 (WRC & ODEQ FILES)

HYDRO CARBON RECOVERY PROGRAM / REPORTS (WRC & ODEQ FILES)

Footnotes:

¹“Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

Page 3

_____. If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”²).

_____ If unknown - skip to #8 and enter "IN" status code.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

² “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

Page 4

_____ If yes - continue after identifying potentially affected surface water bodies.

_____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

Rationale and Reference(s):

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 5

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and
Reference(s):

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 6

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR

2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the

overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and

Reference(s):

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

Page 7

If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

If unknown - enter "IN" status code in #8.

Reference(s):

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or printed text on the page.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 8

- ✓ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the WYNNEWOOD REFINING COMPANY

facility, EPA ID # OKD 000396549, located
at 906 S. POWELL, WYNNEWOOD, OK. Specifically, this determination
indicates that the migration of "contaminated" groundwater is under control, and that
monitoring will be conducted to confirm that contaminated groundwater remains
within the "existing area of contaminated groundwater" This determination will be
re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or
expected.

_____ IN - More information is needed to make a determination.

Completed by (signature) Chris Hawley Date 8/15/00
(print) CHRIS HAWLEY
(title) _____

Supervisor (signature) _____ Date _____
(print) _____
(title) _____
(EPA Region or State) _____

Locations where References may be found:

WYNNEWOOD REFINING COMPANY
906 S. POWELL, P.O. BOX 305, WYNNEWOOD, OK 73098
OKLAHOMA DEPT. OF ENVIRONMENTAL QUALITY
707 N. ROBINSON, OKLAHOMA CITY, OK 73102

Contact telephone and e-mail numbers

(name) CHRIS HAWLEY
(phone #) 405-665-6655
(e-mail) chawley@GWEC.COM

MARK S. COLEMAN
Executive Director



FRANK KEATING
Governor

State of Oklahoma
DEPARTMENT OF ENVIRONMENTAL QUALITY

January 26, 1998

RECEIVED
FEB 3 - 1998

David C. Roderick, Vice President, Refining
Wynnewood Refining Company
Post Office Box 305
Wynnewood, Oklahoma 73098

WYNNEWOOD REFINING COMPANY
WYNNEWOOD, OK

Re: Status of Solid Waste Management Units for RCRA Information System
EPA I.D. No. OKD000396549
Hazardous Waste Management Operations Permit No. 000396549

Dear Mr. Roderick:

In order to verify our files and to ensure that all information has been entered properly into the RCRA Information System (RCRIS), the Oklahoma Department of Environmental Quality has reviewed the corrective action status of each Solid Waste Management Unit (SWMU) at your facility. Below is a table of the SWMUs listing a brief summary of corrective action processes which have been implemented and the current corrective action determination at each SWMU.

SWMU	Corrective Action	Determination
Asphalt Pit 1	Removed under Corrective Measures Implementation (CMI)	Corrective Action (CA) completed
Asphalt Pit 2	Removed under CMI	CA completed
Asphalt Pit 3	Removed under CMI	CA completed
Biosludge Pit	No significant hazardous constituents found during RCRA Facility Investigation (RFI)	CA completed
Drainage Ditch	Removed as part of a closure	CA completed
Storm Water Retention Pond	Closed with RCRA final cover	Monitored under post-closure permit
Process Wastewater Drainage Ditch	No significant hazardous constituents found during the RFI; concrete lined	CA completed
Settling Lagoons	No significant releases to soils or ground water were found during the RFI	CA completed

Mr. Roderick
Wynnewood Refining Company
January 26, 1998
Page 2 of 2

Closed Landfill	No significant releases to soils or ground water were found during the RFI	CA completed
API Separator	No significant releases to soils or ground water were found during the RFI	CA completed
API Separator	No significant releases to soils or ground water were found during the RFI	CA completed
API Separator Sludge Pit	No significant releases to soils or ground water were found during the RFI	CA completed
Closed Oil Trap	No significant releases to soils or ground water were found during the RFI	CA completed
Asphalt Pit 4 / Southern Leaded Tank Bottoms Disposal Area	No significant releases to soils or ground water were found during the Phase II RFI	CA completed
Northern Leaded Tank Bottoms Disposal Area	Further RFI is required, but is deferred due to this SWMU's proximity to the free-product hydrocarbon plume. The RFI is deferred until the on-going remediation of this plume is completed.	RFI deferred.

All RCRIS entries will reflect the relevant corrective action information regarding each SWMU.

If you believe that any of the above information is incorrect, or if you have any questions regarding this letter, please contact Robert Repogle at (405) 271-7069.

Sincerely,



Donald D. Barrett, Chief Environmental Engineer
Waste Management Division

DDB/rr

WRC\RCRIS\980123

cc: Richard Thomas, EPA Region 6

MARK S. COLEMAN
Executive Director



FRANK KEATING
Governor

State of Oklahoma
DEPARTMENT OF ENVIRONMENTAL QUALITY

October 3, 1996

D.C. Roderick, Vice President Refining
Wynnewood Refining Company
Post Office Box 305
Wynnewood, OK 73098

Re: Phase III RCRA Facility Investigation (RFI) Findings Report for the Southern Leaded Tank Bottoms Disposal Area
EPA I.D. No. OKD000396549
RCRA Operations Permit No: 000396549

Dear Mr. Roderick:

The Waste Management Division (WMD) has completed a review of the Phase III RCRA Facility Investigation (RFI) Findings Report for the Southern Leaded Tank Bottoms Disposal Area which was submitted to this office by letter on July 24, 1996. The Findings Report appears to be consistent with the requirements of set forth in the approved Phase III Workplan, Section 3004 of the Hazardous and Solid Waste Amendments of 1984 (HSWA) and the HSWA provisions of your facility's RCRA operations permit.

Based upon the results of the Phase II and Phase III RFI for the Southern Leaded Tank Bottoms Disposal Area and subsequent telephone conversations between refinery staff and WMD staff during the past two months, no further work to characterize soil and groundwater, nor a corrective measures study is required for this SWMU area.

If you have any questions, please contact Robert Replogle of my staff at (405) 271-7069.

Sincerely,

A handwritten signature in cursive script, appearing to read "H.A. Caves".

H.A. Caves, Director
Waste Management Division

HAC/rr

cc: Richard Thomas (6H-HS), EPA Region VI

RECEIVED
OCT 4 1996



April 8, 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P 142 029 755

Mr. H.A. Caves
Oklahoma Department of Environmental Quality
Waste Management Division
1000 N.E. 10th Street
Oklahoma City, OK 73117-1212

Re: Wynnewood Refining Company
RCRA Permit No. 000396549
Asphalt Pit 1 & 2 Remediation Report

Dear Mr. Caves:

Wynnewood Refining Company (WRC) submits for your review a copy of the Asphalt Pits 1 & 2 Remediation Report. This submittal details WRC's excavation, sampling and analytical procedures used in the removal and disposition of Asphalt Pits 1 & 2. All activities were performed under the guidelines of the RCRA Corrective Measure Study/Corrective Measure Implementation (CMS/CMI) Plan submitted to the USEPA on January 17, 1994 and approved on April 29, 1994. WRC believes this report meets all the objectives for finalizing the RCRA CMS/CMI Plan.

If you have any questions, please contact me at 405/665-6622.

Sincerely,

WYNNEWOOD REFINING COMPANY

D.G. Prucha
Manager Environmental Engineering

Attachment

0359DGP.fea

cc: Mr. Robert Replogle (ODEQ-WMD) w/Attachment
JCH w/a
DCR wo/a
John Goodrich wo/a



10 East Cambridge Circle Dr. Suite 250
Kansas City, Kansas 66103
Telephone: (913) 982-0457 Facsimile: (913) 905-0290
E-mail: saMcCormick@CVREnergy.com

June 23, 2014

Donald A Hensch, P.E.
Engineering Manager, RCRA Permits and Corrective Action
Land Protection Division
Oklahoma Department of Environmental Quality
707 N. Robinson
Oklahoma City, OK 73102

RE: Notification of Newly Identified Potential SWMU
Wynnewood Refining Company, LLC (RCRA Permit No. 000396549)
Wynnewood, Oklahoma

Dear Mr. Hensch:

Wynnewood Refining Company, LLC (WRC) is submitting this written notification of the discovery of a newly identified potential Solid Waste Management Unit (SWMU). In accordance with Section VII.D.1 of our RCRA permit (No. 000396549), this notification is being made within 30 days after the discovery. This letter contains a summary of our investigation of the SWMU and, to the extent available, the information required in Section VII.D.

On May 28, 2014, buried drums were encountered during exploratory work for a new building east of the asphalt control building (Zone 4 Operators Shelter). Following identification of drums in the initial exploratory borings, several more borings were installed in order to delineate a potential SWMU. A total of 28 borings were installed to approximately 3-7 feet bgs, depending on the contents identified. Borings 1 through 22 were installed with a 12-inch diameter solid flight auger and 23 through 28 were installed using a hydro-excavator due to nearby subsurface utilities. The contents within each boring were cataloged for mapping purposes and screened using a photoionization detector (PID) to identify the best locations for confirmation sampling. The location figures and field notes (Enclosure 1) are enclosed.

Evidence of crushed drums, cans, buckets, lumber, and other miscellaneous debris were found in 14 of the 28 borings (see Figure 3). Asphalt and tar (presumably from the long history of asphalt storage and transfer operations in this area) were present in 20 of 28 borings. PID screening was conducted after the borings were installed, using a handheld Photovac 2020 ComboPro. The screening was conducted by inserting an extension tube (approximately 0.5 feet) from the unit into each boring and holding the tube in place until a peak value was measured. The screening results were generally low, ranging from 0.9 to 9.4 ppm. A background value of 0.7 ppm was measured outside of the borings at the site location.

A total of three samples were collected. A waste characterization sample was collected from the tarry material found associated with one of the buried drums (ID: #1 Borehole). A composite sample from borings 4 and 10 (ID: #2 & #4 Composite) was collected at the level of the debris. A soil sample from boring 28 (ID: WWZone4 ChangeHouse28 (4.5-5)) was collected from the downgradient

periphery of the drum field to determine if there has been a release of any hazardous constituents from the drum disposal area. The first two samples were collected on May 29, 2014 and sent to Environmental Resource Technologies (ODEQ Certification No. 8304) for analysis of VOCs, SVOCs, and metals commonly associated with petroleum refining. The third sample was collected on June 3, 2014 and sent to Trinity Analytical Labs (ODEQ Certification No. 9313) for analysis of VOCs, SVOCs, metals, TPH-GRO and TPH-DRO. The final laboratory reports are enclosed (Enclosure 2).

The analytical results were compared to US EPA Regional Screening levels (RSLs) for industrial soil, updated May 2014. All of the analytes detected were below RSLs.

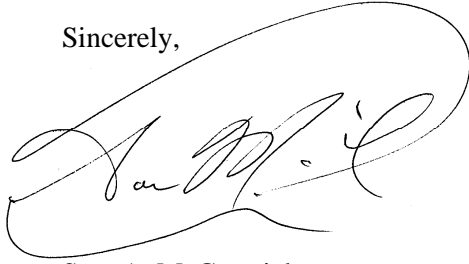
The information required by Section VII.D.1 of the permit is included in this notification as listed below:

- *a. The location of the newly-identified SWMU or potential AOC on the topographic map required under 40 CFR Section 270.14(b)(19). Indicate all existing units (in relation to other SWMUs);*
 - See the attached figures. Figure 1 provides a topographic map, Figure 2 provides a site map with existing SWMUs, and Figure 3 provides the location of the exploratory borings.
- *b. The type and function of the unit;*
 - The unit was used for drum and debris disposal.
- *c. The general dimensions, capacities, and structural description of the unit (supply any available drawings);*
 - The dimensions are approximately 50 x 15 feet (as shown on Figure 3), but the capacity is unknown. WRC surmises that no actual structure for this unit exists and the drums were simply buried in an earthen trench.
- *d. The period during which the unit was operated;*
 - The operational period is unknown. Based on the age of the tank that formerly occupied this location, the drums and debris were apparently buried at least 50 years ago.
- *e. The specifics, to the extent available, on all wastes that have been or are being managed at the SWMU or potential AOC;*
 - Observed from exploratory borings: drums, cans, buckets, lumber, miscellaneous metal and debris.
- *f. Results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste including hazardous constituents have occurred, are occurring, or are likely to occur from the SWMU or whether the AOC should be considered a SWMU.*
 - The laboratory results are attached for reference.

Due to the presence of above and below ground product transfer lines and utilities in this area excavation of the drum field is considered impractical; therefore the potential SWMU has been left in place. Based on the limited aerial extent of the drums, the absence of any hazardous constituents in excess of RSLs, and its location within the active asphalt blending storage and transfer operational area of the refinery, WRC recommends that this SWMU be catalogued with the other SWMUs in Table VII-1 of the permit, with no further action at this time. If you need additional information or

have any questions, please feel free to contact me at 913-982-0457 or Jerome McSorley in our Oklahoma City office at 405-945-0090.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sam A. McCormick', enclosed within a large, loopy oval shape.

Sam A. McCormick
Project Manager

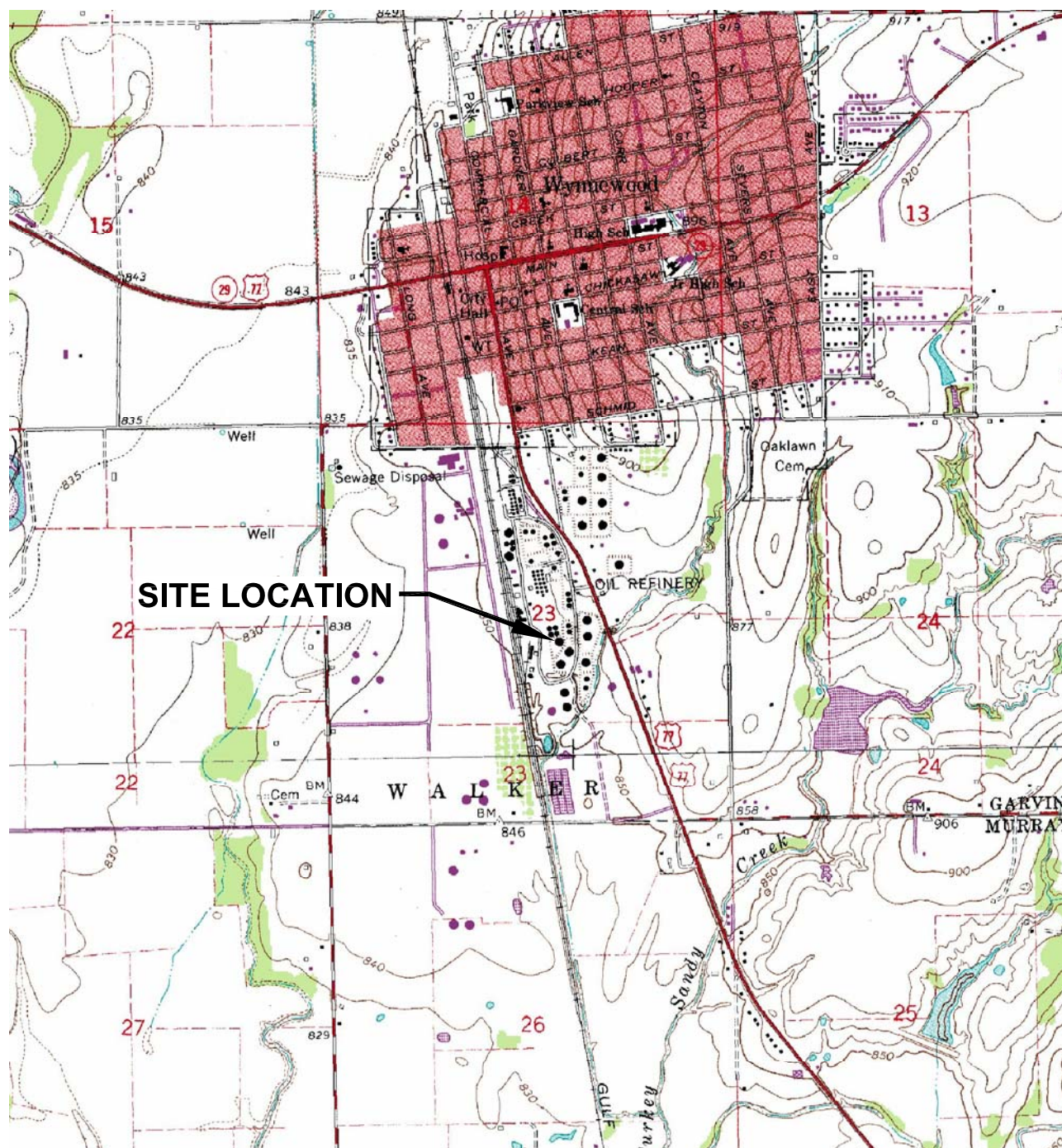
SAM:jdm

K:\Coffeyville Resources\WRC\Correspondence\ODEQ Drum Notification June 2014\WRC_062314_Zone 4 Landfill_30 Day Notification.docx

Enclosures

cc/encl: Sidney Cabbiness – Wynnewood Refining Company, LLC
 Evan Hilburn – Wynnewood Refining Company, LLC
 Jerome McSorley – CVR Energy, Inc.
 Christine Warford – WSP

Figures



0 2,000 4,000

SCALE IN FEET



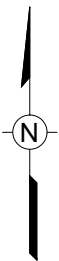
 WSP USA Corp.
123 North Third Street, Suite 507
Minneapolis, Minnesota 55401
(612) 343-0510
www.wspenvironmental.com/usa

Figure 1

SITE LOCATION

WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA

PREPARED FOR
WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA



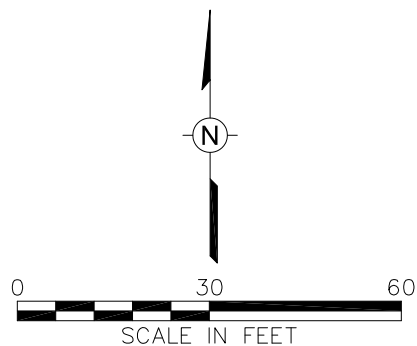
0 600 1,200
SCALE IN FEET

Figure 2

SITE MAP AND
SOIL WASTE MANAGEMENT UNITS (SWMUs)

WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA
PREPARED FOR
WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA

Drawn By: LS 6/18/2014
Checked:
Approved:
DWG Name: 00028249-123



OMW-6 ▲



LEGEND

- TEMPORARY EXPLORATORY BORING
- TEMPORARY EXPLORATORY BORING AND SAMPLE LOCATION
- UNDERGROUND ELECTRIC
- . - . - ESTIMATED EXTENTS OF DRUM DISPOSAL AREA



WSP USA Corp.
123 North Third Street, Suite 507
Minneapolis, Minnesota 55401
(612) 343-0510
www.wspgroup.com/usa

Figure 3

DRUM DISPOSAL AREA—
EXPLORATORY BORINGS

WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA

PREPARED FOR
WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA

Enclosure 1

DAILY LOG FORM



Well(s) Project/No. LANDFILL EAST OF SHELTER 04-1 Page 1 of 3
 Site Location WRC - Wynnewood, OK ASPIRATOR CONTROL ROOM CONSTRUCTION SITE

Prepared By JEROME MCJORLEY

Date/Time	Description of Activities
6-2-14/1420	CUR (SAM MCCORMICK, JEROME MCJORLEY) ON SITE TO MEET WRC AND REVIEW SUSPECTED LANDFILL
1515	LANDFILL REVIEWED AT 04-1 SHELTER. NOTED CANS/DRUMS/TAR AT ~4-6' BGS. (EAST OF SHELTER)
	- NEEDS FURTHER DELINEATION TO SOUTH
	* HYDROEXCAVATOR ON ASPHALT SCHEDULE FOR TODAY/TOMORROW
1650	RETURN TO LANDFILL LOCATION - THREE ADDITIONAL TEST HOLES PLACED IN SW AREA APPEAR TO BE CLEAR OF DEBRIS/TAR. ALL HOLES PLACED ABOUT 8' BGS BY HYDRO CHEM.
6-3-14/0830	CUR ON SITE TO REVIEW LANDFILL AREA AND COLLECT CONFIRMATION SAMPLE. HYDRO CHEM ON SITE TO INSTALL ADDITIONAL BORINGS TO THE SOUTH.
0930	PLD SCREEN (LISTED BY MAP LOCATION ID) BACKGROUND : 0.7 ppm
	1. 1.6 ppm 9. 3.0 ppm 17. 5.2 ppm 25. 5.4 ppm
	2. 0.9 ppm 10. 2.3 ppm 18. 8.9 ppm 26. 4.7 ppm
	3. 0.9 ppm 11. 6.9 ppm 19. 7.6 ppm 27. 5.6 ppm
	4. 1.8 ppm 12. 4.2 ppm 20. 9.4 ppm 28. 3.8 ppm
	5. 4.4 ppm 13. 0.8 ppm 21. 6.9 ppm
	6. 3.4 ppm 14. 4.1 ppm 22. 4.5 ppm
	7. 1.3 ppm 15. 7.1 ppm 23. 4.0 ppm
	8. 4.8 ppm 16. 4.8 ppm 24. 0.9 ppm

* PID: PHOTONIC UNIT 2020 COMBIO 120

DAILY LOG FORM



Well(s) _____ Project/No. LANDFILL Page 2 of 3

Site Location WRC - Wynnewood, OK

Prepared By JEROME MCSORLEY

Date/Time	Description of Activities
6-3-14 / 1000	BORING DETAILS (LISTED BY MAP NUMBER)
	1. 12" DIA. / 6' DEEP / SCRAP METAL
	2. 12" DIA / 6' DEEP / TAR SEEP @ 1' BGS
	3. 12" DIA / 6' DEEP / TAR SEEP @ 2' BGS
	4. 12" DIA / 6' DEEP / TAR SEEP @ 2' BGS
	5. 12" DIA / 6' DEEP / TAR SEEP @ 2' BGS
	6. 12" DIA / 6' DEEP
	7. 12" DIA / 5' DEEP
	8. 12" DIA / 6' DEEP
	9. 12" DIA / 7' DEEP / TAR SEEP @ 2-3' BGS
	10. 12" DIA / 4' DEEP - TAR BOTTOM / TAR SEEP @ 2' BGS / METAL DEBRIS
	11. 12" DIA / 4' DEEP - TAR BOTTOM / METAL DEBRIS - DRUM TOP / SOIL HORIZON @ 1.5' BGS
	12. 12" DIA / 3' DEEP TAR BOTTOM / METAL DEBRIS - CANS
	13. 12" DIA / 5' DEEP / WATER w/ TAR / TAR SEEP @ 2' / METAL DEBRIS
	14. 12" DIA / 5' DEEP - WATER w/ TAR / TAR SEEP @ 2' / METAL - DRUM
	15. 12" DIA / 5' DEEP - TAR / METAL - DRUM / ROOT ZONE 0-2'
	16. 12" DIA / 4' DEEP - TAR / METAL - DRUM / ROOT ZONE 2.5'
	17. 12" DIA / 4' DEEP - TAR / METAL - DRUM / ROOT ZONE 2'
	18. 12" DIA / 4' DEEP - TAR + WATER / METAL DEBRIS / ROOT ZONE @ 2'
	19. 12" DIA / 3' DEEP - TAR / METAL - DRUM / ROOT ZONE @ 2'
	20. 12" DIA / 5' DEEP - TAR / METAL - DRUM LUMBER
	21. 12" DIA / 6.5' DEEP - TAR / METAL - DRUM / ROOT @ 3', TAR LAYER @ 3" BGS
	22. 12" DIA. / 5' DEEP - TAR / TAR LAYER @ 1' BGS

23. 10" DIA / 4' DEEP - TAR SEEP AFTER INSTALL

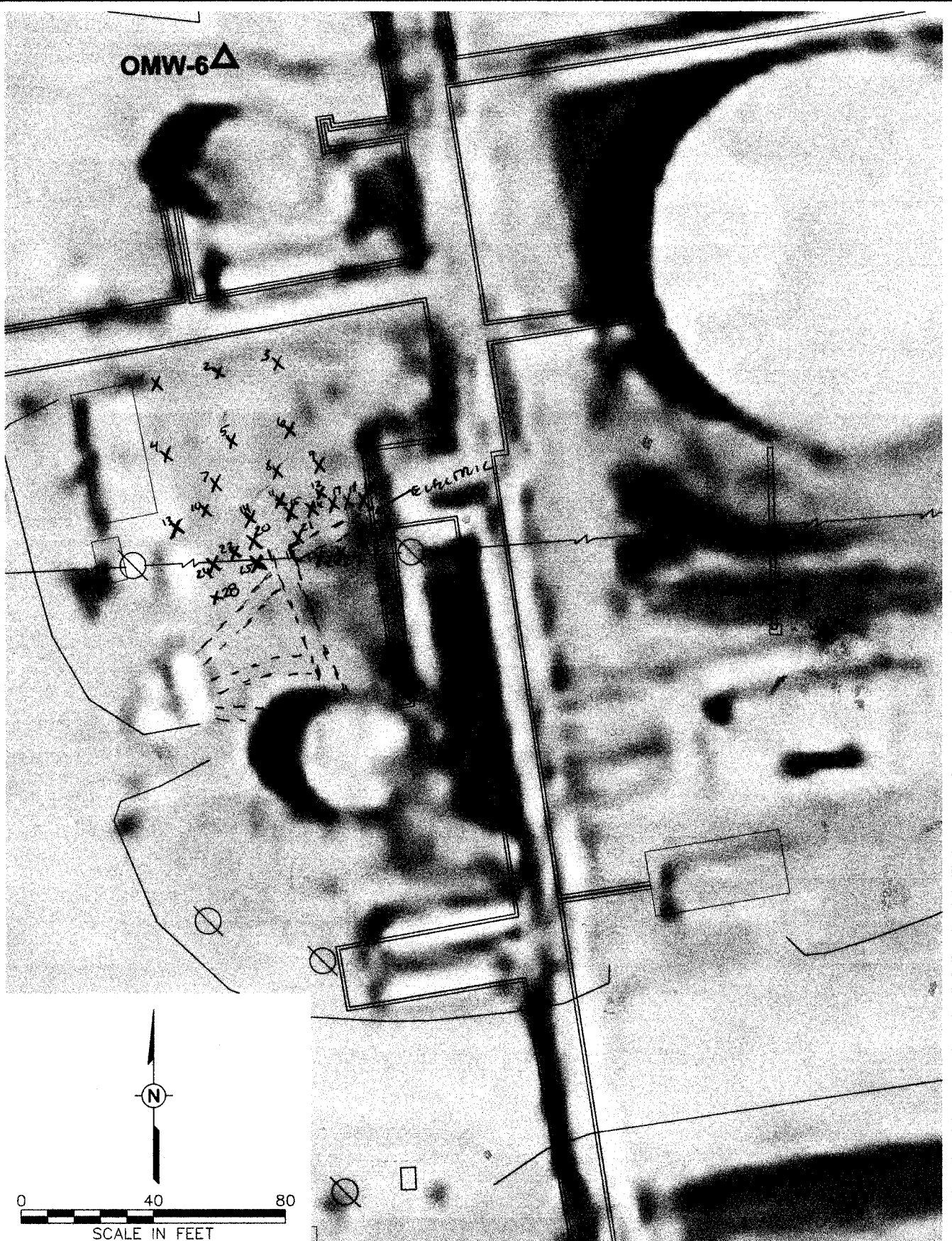
24. 10" DIA / 6' DEEP - SOLID BOTTOM / METAL DEBRIS - ~~DRUM~~ / TAR SEEP @ 2' BGS @ 2' BGS CAN

**WYNNEWOOD
REFINING**
ACTR Energy, Inc. Company

Prepared By	JEROME MCSORLEY
-------------	-----------------

[illegible]

Drawn By: LS
 Checked: 6/12/2014
 Approved: OMW-6
 DWG Name: ENLARGED AREA OMW-6



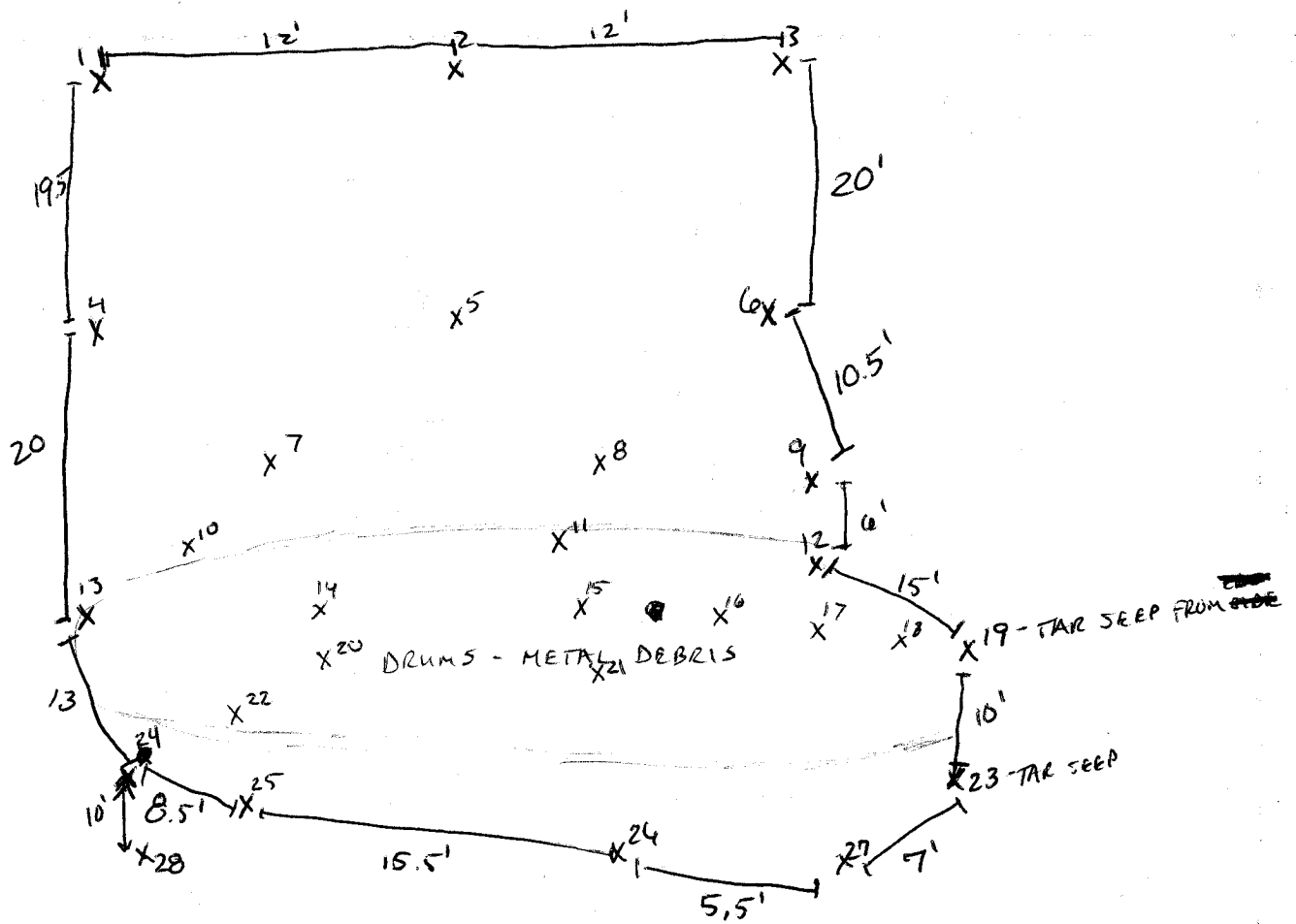
WSP USA Corp.
 123 North Third Street, Suite 507
 Minneapolis, Minnesota 55401
 (612) 343-0510
www.wspgroup.com/usa

Figure

TEST HOLE LOCATIONS

WYNNEWOOD REFINING COMPANY, LLC
 WYNNEWOOD, OKLAHOMA

PREPARED FOR
 WYNNEWOOD REFINING COMPANY, LLC
 WYNNEWOOD, OKLAHOMA



PERIMETER SKETCH

CHANGE ROOM BUILDING SIZE - 25' x 40'

Enclosure 2

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Certificate of Analysis

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

ERT Lab	Sample	Date	Analysis		Analyzed					
Log #	Identification	Sampled	Date	Time	By		Parameter	Results	Units	Method
WW1405450	#1 Borehole	05/29/14	06/03/14	08:30	628		Mercury	0.48	mg/kg	7471
			06/02/14	10:51	603		Antimony	<2.0	mg/kg	6010B
			06/02/14	10:51	603		Arsenic	2.6	mg/kg	6010B
			06/02/14	10:51	603		Barium	92	mg/kg	6010B
			06/02/14	10:51	603		Beryllium	0.24	mg/kg	6010B
			06/02/14	10:51	603		Cadmium	<0.50	mg/kg	6010B
			06/02/14	10:51	603		Chromium	11	mg/kg	6010B
			06/02/14	10:51	603		Cobalt	2.7	mg/kg	6010B
			06/02/14	10:51	603		Lead	23	mg/kg	6010B
			06/02/14	10:51	603		Nickel	15	mg/kg	6010B
			06/02/14	10:51	603		Selenium	2.3	mg/kg	6010B
			06/02/14	10:51	603		Vanadium	24	mg/kg	6010B
			06/04/14	11:16	644		Benzene	<0.25	mg/kg	8260B
			06/04/14	11:16	644		Carbon disulfide	<0.25	mg/kg	8260B
			06/04/14	11:16	644		Chlorobenzene	<0.25	mg/kg	8260B
			06/04/14	11:16	644		Chloroform	<1.2	mg/kg	8260B
			06/04/14	11:16	644		1,2-Dichloroethane	<0.25	mg/kg	8260B
			06/04/14	11:16	644		1,4-Dioxane	<25	mg/kg	8260B
			06/04/14	11:16	644		Ethylbenzene	<0.25	mg/kg	8260B
			06/04/14	11:16	644		1,2-Dibromoethane (Ethylene Dibromide)	<0.25	mg/kg	8260B
			06/04/14	11:16	644		2-Butanone (Methyl Ethyl Ketone)	<2.5	mg/kg	8260B
			06/04/14	11:16	644		Styrene	<0.25	mg/kg	8260B
			06/04/14	11:16	644		Toluene	<1.2	mg/kg	8260B
			06/04/14	11:16	644		Xylenes, Total	<0.75	mg/kg	8260B
			06/04/14	00:44	280		Anthracene	<3.3	mg/kg	8270C
			06/04/14	00:44	280		Benzo(a)anthracene	<3.3	mg/kg	8270C
			06/04/14	00:44	280		Benzo(b)fluoranthene	<3.3	mg/kg	8270C
			06/04/14	00:44	280		Benzo(k)fluoranthene	<3.3	mg/kg	8270C
			06/04/14	00:44	280		Benzo(a)pyrene	<3.3	mg/kg	8270C
			06/04/14	00:44	280		Bis(2-ethylhexyl)phthalate	<33	mg/kg	8270C
			06/04/14	00:44	280		Benzylbutyl phthalate	<33	mg/kg	8270C
			06/04/14	00:44	280		Chrysene	<3.3	mg/kg	8270C
			06/04/14	00:44	280		Dibenz(a,h)anthracene	<3.3	mg/kg	8270C

NI* = Not identified in the tentatively identified compounds

Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

628,603,644,280= Subcontracted to ODEQ Lab #9915

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 1 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Certificate of Analysis

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

ERT Lab	Sample	Date	Analysis		Analyzed		Parameter	Results	Units	Method		
Log #	Identification	Sampled	Date	Time	By							
WW1405450	#1 Borehole	05/29/14	06/04/14	00:44	280	1,2-Dichlorobenzene	<33	mg/kg	8270C			
			06/04/14	00:44	280	1,3-Dichlorobenzene	<33	mg/kg	8270C			
			06/04/14	00:44	280	1,4-Dichlorobenzene	<33	mg/kg	8270C			
			06/04/14	00:44	280	Diethyl phthalate	<33	mg/kg	8270C			
			06/04/14	14:31	280	Dimethylbenz (A) Anthracene	<33	mg/kg	8270C			
			06/04/14	00:44	280	Dimethyl phthalate	<33	mg/kg	8270C			
			06/04/14	00:44	280	Di-n-butyl phthalate	<33	mg/kg	8270C			
			06/04/14	00:44	280	Di-n-octyl phthalate	<33	mg/kg	8270C			
			06/04/14	00:44	280	Fluoranthene	<3.3	mg/kg	8270C			
			06/04/14	00:44	280	1-Methylnaphthalene	<3.3	mg/kg	8270C			
			06/04/14	00:44	280	Naphthalene	3.4	mg/kg	8270C			
			06/04/14	00:44	280	Phenanthrene	<3.3	mg/kg	8270C			
			06/04/14	00:44	280	Pyrene	<3.3	mg/kg	8270C			
			06/04/14	00:44	280	Pyridine	<33	mg/kg	8270C			
			06/04/14	00:44	280	2-Methylnaphthalene	<3.3	mg/kg	8270C			
			06/04/14	00:44	280	2-Methylphenol (o-cresol)	<33	mg/kg	8270C			
			06/04/14	00:44	280	3&4-Methyl Phenol (m,p-cresol)	<33	mg/kg	8270C			
			06/04/14	00:44	280	2,4-Dimethylphenol	<33	mg/kg	8270C			
			06/04/14	00:44	280	2,4-Dinitrophenol	<33	mg/kg	8270C			
			06/04/14	00:44	280	4-Nitrophenol	<33	mg/kg	8270C			
			06/04/14	00:44	280	Phenol	<33	mg/kg	8270C			
						06/04/14	-	9915	Dibenz(a,h) acridine	NI*	mg/L	TIC
						06/04/14	-	9915	Indene	NI*	mg/L	TIC
						06/04/14	-	9915	Quinoline	NI*	mg/L	TIC
						06/04/14	-	9915	Benzenethiol	NI*	mg/L	TIC

Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

628,603,644,280= Subcontracted to ODEQ Lab #9915

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 2 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Quality Control Report

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

Date				Duplicate %		Spike	Standard %
Sampled	Parameter	Method	MDL	Difference	BLANK	Recovery	Recovery
05/29/14	Mercury	7471	0.02 mg/Kg	13.0	BDL	97.6	106
	Antimony	6010B	1 mg/Kg	NA	BDL	NA	65.0
	Arsenic	6010B	1 mg/Kg	2.00	BDL	93.9	103
	Barium	6010B	0.25 mg/Kg	1.00	BDL	119	104
	Beryllium	6010B	0.1 mg/Kg	NA	BDL	NA	102
	Cadmium	6010B	0.25 mg/Kg	4.00	BDL	98.5	96.0
	Chromium	6010B	0.5 mg/Kg	2.00	BDL	104	103
	Cobalt	6010B	0.5 mg/Kg	NA	BDL	NA	102
	Lead	6010B	0.25 mg/Kg	7.00	BDL	97.5	97.0
	Nickel	6010B	1 mg/Kg	NA	BDL	NA	102
	Selenium	6010B	1 mg/Kg	7.00	BDL	106	107
	Vanadium	6010B	0.5 mg/Kg	NA	BDL	NA	106
	Benzene	8260B	0.001 mg/Kg	2.26	BDL	78.8	101
	Carbon disulfide	8260B	0.001 mg/Kg	0.860	BDL	102	126
	Chlorobenzene	8260B	0.001 mg/Kg	5.07	BDL	79.9	93.8
	Chloroform	8260B	0.005 mg/Kg	2.14	BDL	73.4	94.9
	1,2-Dichloroethane	8260B	0.001 mg/Kg	2.65	BDL	69.8	93.2
	1,4-Dioxane	8260B	0.1 mg/Kg	NA	BDL	NA	NA
	Ethylbenzene	8260B	0.001 mg/Kg	3.77	BDL	84.0	95.1
	1,2-Dibromoethane (Ethylene Dibromide)	8260B	0.001 mg/Kg	2.58	BDL	81.2	97.4
	2-Butanone (MEK)	8260B	0.01 mg/Kg	5.02	BDL	88.4	109
	Styrene	8260B	0.001 mg/Kg	4.56	BDL	83.7	99.1
	Toluene	8260B	0.005 mg/Kg	2.18	BDL	80.6	98.7
	Xylenes, Total	8260B	0.003 mg/Kg	4.88	BDL	81.4	93.6
	Anthracene	8270C	0.033 mg/Kg	1.21	BDL	58.7	61.2
	Benzo(a)anthracene	8270C	0.033 mg/Kg	3.36	BDL	62.1	58.8
	Benzo(b)fluoranthene	8270C	0.033 mg/Kg	4.34	BDL	60.8	61.2
	Benzo(k)fluoranthene	8270C	0.033 mg/Kg	9.80	BDL	65.0	61.9
	Benzo(a)pyrene	8270C	0.033 mg/Kg	6.15	BDL	57.8	56.4
	Bis(2-ethylhexyl)phthalate	8270C	0.333 mg/Kg	3.37	BDL	58.9	58.5
	Benzylbutyl phthalate	8270C	0.333 mg/Kg	2.82	BDL	59.0	62.6
	Chrysene	8270C	0.033 mg/Kg	1.76	BDL	62.5	62.0
	Dibenz(a,h)anthracene	8270C	0.033 mg/Kg	5.32	BDL	65.0	61.8


Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

*Performance of this Analyte is outside of established criteria.

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 1 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Quality Control Report

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

Date	Parameter	Method	MDL	Duplicate %	BLANK	Spike	Standard %
Sampled				Difference		Recovery	Recovery
05/29/14	1,2-Dichlorobenzene	8270C	0.333 mg/Kg	3.12	BDL	55.5	50.9
	1,3-Dichlorobenzene	8270C	0.333 mg/Kg	1.16	BDL	53.2	50.0
	1,4-Dichlorobenzene	8270C	0.333 mg/Kg	0.140	BDL	51.9	49.6
	Diethyl phthalate	8270C	0.333 mg/Kg	1.78	BDL	63.4	66.6
	Dimethylbenz (A) Anthracene	8270C	0.33 mg/Kg	NA	BDL	NA	NA
	Dimethyl phthalate	8270C	0.333 mg/Kg	2.74	BDL	60.4	61.7
	Di-n-butyl phthalate	8270C	0.333 mg/Kg	2.11	BDL	54.4	61.5
	Di-n-octyl phthalate	8270C	0.333 mg/Kg	9.86	BDL	63.2	61.1
	Fluoranthene	8270C	0.033 mg/Kg	0.780	BDL	54.4	60.2
	1-Methylnaphthalene	8270C	0.033 mg/Kg	2.31	BDL	60.5	55.5
	Naphthalene	8270C	0.033 mg/Kg	3.53	BDL	52.3	47.7
	Phenanthrene	8270C	0.033 mg/Kg	1.10	BDL	66.9	60.8
	Pyrene	8270C	0.033 mg/Kg	0.420	BDL	57.0	57.5
	Pyridine	8270C	0.333 mg/Kg	13.8	BDL	14.3	29.6
	2-Methylnaphthalene	8270C	0.033 mg/Kg	0.500	BDL	55.1	51.3
	2-Methylphenol (o-cresol)	8270C	0.333 mg/Kg	3.62	BDL	63.6	57.3
	3&4-Methyl Phenol (m,p-cresol)	8270C	0.333 mg/Kg	1.41	BDL	79.6	70.2
	2,4-Dimethylphenol	8270C	0.333 mg/Kg	0.230	BDL	68.0	56.8
	2,4-Dinitrophenol	8270C	0.333 mg/Kg	10.8	BDL	56.2	36.0
	4-Nitrophenol	8270C	0.333 mg/Kg	6.16	BDL	59.6	58.9
	Phenol	8270C	0.333 mg/Kg	3.80	BDL	71.8	63.7


Laboratory Authorized Signatory

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

*Performance of this Analyte is outside of established criteria.

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Certificate of Analysis

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

ERT Lab	Sample	Date	Analysis	Analized					
Log #	Identification	Sampled	Date	Time	By	Parameter	Results	Units	Method
WWV1405451	#2 & #4 Composite	05/29/14	06/03/14	08:30	628	Mercury	0.21	mg/kg	7471
			06/02/14	10:51	603	Antimony	<2.0	mg/kg	6010B
			06/02/14	10:51	603	Arsenic	<2.0	mg/kg	6010B
			06/02/14	10:51	603	Barium	100	mg/kg	6010B
			06/02/14	10:51	603	Beryllium	0.55	mg/kg	6010B
			06/02/14	10:51	603	Cadmium	<0.50	mg/kg	6010B
			06/02/14	10:51	603	Chromium	13	mg/kg	6010B
			06/02/14	10:51	603	Cobalt	3.6	mg/kg	6010B
			06/02/14	10:51	603	Lead	8	mg/kg	6010B
			06/02/14	10:51	603	Nickel	8.5	mg/kg	6010B
			06/02/14	10:51	603	Selenium	<2.0	mg/kg	6010B
			06/02/14	10:51	603	Vanadium	25	mg/kg	6010B
			06/03/14	13:07	644	Benzene	0.34	mg/kg	8260B
			06/03/14	13:07	644	Carbon disulfide	<0.025	mg/kg	8260B
			06/03/14	13:07	644	Chlorobenzene	<0.025	mg/kg	8260B
			06/03/14	13:07	644	Chloroform	<0.12	mg/kg	8260B
			06/03/14	13:07	644	1,2-Dichloroethane	<0.025	mg/kg	8260B
			06/03/14	13:07	644	1,4-Dioxane	<2.5	mg/kg	8260B
			06/03/14	13:07	644	Ethylbenzene	0.11	mg/kg	8260B
			06/03/14	13:07	644	1,2-Dibromoethane (Ethylene Dibromide)	<0.025	mg/kg	8260B
			06/03/14	13:07	644	2-Butanone (Methyl Ethyl Ketone)	<0.25	mg/kg	8260B
			06/03/14	13:07	644	Styrene	<0.025	mg/kg	8260B
			06/03/14	13:07	644	Toluene	<0.12	mg/kg	8260B
			06/03/14	13:07	644	Xylenes, Total	0.17	mg/kg	8260B
			06/04/14	00:44	280	Anthracene	<0.66	mg/kg	8270C
			06/04/14	00:44	280	Benzo(a)anthracene	<0.66	mg/kg	8270C
			06/04/14	00:44	280	Benzo(b)fluoranthene	<0.66	mg/kg	8270C
			06/04/14	00:44	280	Benzo(k)fluoranthene	<0.66	mg/kg	8270C
			06/04/14	00:44	280	Benzo(a)pyrene	<0.66	mg/kg	8270C
			06/04/14	00:44	280	Bis(2-ethylhexyl)phthalate	<6.7	mg/kg	8270C
			06/04/14	00:44	280	Benzylbutyl phthalate	<6.7	mg/kg	8270C
			06/04/14	00:44	280	Chrysene	<0.66	mg/kg	8270C
			06/04/14	00:44	280	Dibenz(a,h)anthracene	<0.66	mg/kg	8270C

NI* = Not identified in the tentatively identified compounds

Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

628,603,644,280= Subcontracted to ODEQ Lab #9915

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 1 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Certificate of Analysis

Client Name: Wynnewood Refining Co LLC

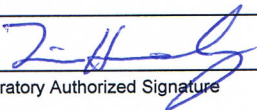
Date Received: 05/30/14

Project:

Report Date: 06/06/14

ERT Lab	Sample	Date	Analysis		Analyzed		Parameter	Results	Units	Method		
Log #	Identification	Sampled	Date	Time	By							
WW1405451	#2 & #4 Composite	05/29/14	06/04/14	00:44	280	1,2-Dichlorobenzene	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	1,3-Dichlorobenzene	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	1,4-Dichlorobenzene	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	Diethyl phthalate	<6.7	mg/kg	8270C			
			06/04/14	14:31	280	Dimethylbenz (A) Anthracene	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	Dimethyl phthalate	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	Di-n-butyl phthalate	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	Di-n-octyl phthalate	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	Fluoranthene	<0.66	mg/kg	8270C			
			06/04/14	00:44	280	1-Methylnaphthalene	0.99	mg/kg	8270C			
			06/04/14	00:44	280	Naphthalene	<0.66	mg/kg	8270C			
			06/04/14	00:44	280	Phenanthrene	<0.66	mg/kg	8270C			
			06/04/14	00:44	280	Pyrene	<0.66	mg/kg	8270C			
			06/04/14	00:44	280	Pyridine	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	2-Methylnaphthalene	1.2	mg/kg	8270C			
			06/04/14	00:44	280	2-Methylphenol (o-cresol)	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	3&4-Methyl Phenol (m,p-cresol)	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	2,4-Dimethylphenol	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	2,4-Dinitrophenol	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	4-Nitrophenol	<6.7	mg/kg	8270C			
			06/04/14	00:44	280	Phenol	<6.7	mg/kg	8270C			
						06/04/14	-	9915	Dibenz(a,h) acridine	NI*	mg/L	TIC
						06/04/14	-	9915	Indene	NI*	mg/L	TIC
						06/04/14	-	9915	Quinoline	NI*	mg/L	TIC
						06/04/14	-	9915	Benzenethiol	NI*	mg/L	TIC

NI* = Not identified in the tentatively identified compounds


Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

628,603,644,280= Subcontracted to ODEQ Lab #9915

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 2 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Quality Control Report

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

Date				Duplicate %		Spike	Standard %
Sampled	Parameter	Method	MDL	Difference	BLANK	Recovery	Recovery
05/29/14	Mercury	7471	0.02 mg/Kg	13.0	BDL	97.6	106
	Antimony	6010B	1 mg/Kg	NA	BDL	NA	65.0
	Arsenic	6010B	1 mg/Kg	2.00	BDL	93.9	103
	Barium	6010B	0.25 mg/Kg	1.00	BDL	119	104
	Beryllium	6010B	0.1 mg/Kg	NA	BDL	NA	102
	Cadmium	6010B	0.25 mg/Kg	4.00	BDL	98.5	96.0
	Chromium	6010B	0.5 mg/Kg	2.00	BDL	104	103
	Cobalt	6010B	0.5 mg/Kg	NA	BDL	NA	102
	Lead	6010B	0.25 mg/Kg	7.00	BDL	97.5	97.0
	Nickel	6010B	1 mg/Kg	NA	BDL	NA	102
	Selenium	6010B	1 mg/Kg	7.00	BDL	106	107
	Vanadium	6010B	0.5 mg/Kg	NA	BDL	NA	106
	Benzene	8260B	0.001 mg/Kg	6.550	BDL	103	93.5
	Carbon disulfide	8260B	0.001 mg/Kg	7.09	BDL	109	96.7
	Chlorobenzene	8260B	0.001 mg/Kg	5.28	BDL	97.4	97.2
	Chloroform	8260B	0.005 mg/Kg	7.32	BDL	106	96.1
	1,2-Dichloroethane	8260B	0.001 mg/Kg	7.17	BDL	103	95.0
	1,4-Dioxane	8260B	0.1 mg/Kg	NA	BDL	NA	NA
	Ethylbenzene	8260B	0.001 mg/Kg	1.10	BDL	94.7	95.5
	1,2-Dibromoethane (Ethylene Dibromide)	8260B	0.001 mg/Kg	6.59	BDL	101	92.7
	2-Butanone (MEK)	8260B	0.01 mg/Kg	12.1	BDL	94.7	74.3
	Styrene	8260B	0.001 mg/Kg	3.6	BDL	92.6	97.2
	Toluene	8260B	0.005 mg/Kg	2.83	BDL	105	98.4
	Xylenes, Total	8260B	0.003 mg/Kg	1.00	BDL	91.1	92.9
	Anthracene	8270C	0.033 mg/Kg	1.21	BDL	58.7	61.2
	Benzo(a)anthracene	8270C	0.033 mg/Kg	3.36	BDL	62.1	58.8
	Benzo(b)fluoranthene	8270C	0.033 mg/Kg	4.34	BDL	60.8	61.2
	Benzo(k)fluoranthene	8270C	0.033 mg/Kg	9.80	BDL	65.0	61.9
	Benzo(a)pyrene	8270C	0.033 mg/Kg	6.15	BDL	57.8	56.4
	Bis(2-ethylhexyl)phthalate	8270C	0.333 mg/Kg	3.37	BDL	58.9	58.5
	Benzylbutyl phthalate	8270C	0.333 mg/Kg	2.82	BDL	59.0	62.6
	Chrysene	8270C	0.033 mg/Kg	1.76	BDL	62.5	62.0
	Dibenz(a,h)anthracene	8270C	0.033 mg/Kg	5.32	BDL	65.0	61.8

Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

*Performance of this Analyte is outside of established criteria.

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 1 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

ENVIRONMENTAL RESOURCE TECHNOLOGIES, LLC

EPA laboratory code: OK00921

Oklahoma DEQ Certification No. 8304 9915

Quality Control Report

Client Name: Wynnewood Refining Co LLC

Date Received: 05/30/14

Project:

Report Date: 06/06/14

Date				Duplicate %		Spike	Standard %
Sampled	Parameter	Method	MDL	Difference	BLANK	Recovery	Recovery
05/29/14	1,2-Dichlorobenzene	8270C	0.333 mg/Kg	3.12	BDL	55.5	50.9
	1,3-Dichlorobenzene	8270C	0.333 mg/Kg	1.16	BDL	53.2	50.0
	1,4-Dichlorobenzene	8270C	0.333 mg/Kg	0.140	BDL	51.9	49.6
	Diethyl phthalate	8270C	0.333 mg/Kg	1.78	BDL	63.4	66.6
	Dimethylbenz (A) Anthracene	8270C	0.33 mg/Kg	NA	BDL	NA	NA
	Dimethyl phthalate	8270C	0.333 mg/Kg	2.74	BDL	60.4	61.7
	Di-n-butyl phthalate	8270C	0.333 mg/Kg	2.11	BDL	54.4	61.5
	Di-n-octyl phthalate	8270C	0.333 mg/Kg	9.86	BDL	63.2	61.1
	Fluoranthene	8270C	0.033 mg/Kg	0.780	BDL	54.4	60.2
	1-Methylnaphthalene	8270C	0.033 mg/Kg	2.31	BDL	60.5	55.5
	Naphthalene	8270C	0.033 mg/Kg	3.53	BDL	52.3	47.7
	Phenanthrene	8270C	0.033 mg/Kg	1.10	BDL	66.9	60.8
	Pyrene	8270C	0.033 mg/Kg	0.420	BDL	57.0	57.5
	Pyridine	8270C	0.333 mg/Kg	13.8	BDL	14.3	29.6
	2-Methylnaphthalene	8270C	0.033 mg/Kg	0.500	BDL	55.1	51.3
	2-Methylphenol (o-cresol)	8270C	0.333 mg/Kg	3.62	BDL	63.6	57.3
	3&4-Methyl Phenol (m,p-cresol)	8270C	0.333 mg/Kg	1.41	BDL	79.6	70.2
	2,4-Dimethylphenol	8270C	0.333 mg/Kg	0.230	BDL	68.0	56.8
	2,4-Dinitrophenol	8270C	0.333 mg/Kg	10.8	BDL	56.2	36.0
	4-Nitrophenol	8270C	0.333 mg/Kg	6.16	BDL	59.6	58.9
	Phenol	8270C	0.333 mg/Kg	3.80	BDL	71.8	63.7


Laboratory Authorized Signature

MDL = Method Detection Limit.

BDL = Analyte was analyzed for but not detected above MDL.

*Performance of this Analyte is outside of established criteria.

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND/OR INSPECTED, AND ARE NOT INDICATIVE OF THE QUANTITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. UNLESS NOTIFIED IN WRITING, SAMPLES ARE DISPOSED OF 15 DAYS AFTER THE SAMPLE IS REPORTED.

Page 2 of 2

131 Arlington St. Ada OK 74820
(580) 332-8808 Phone (580) 421-9110 Fax

131 Arlington Ada, Oklahoma 74820
Phone (580) 332-8808 Fax (580) 421-9110

PROJECT NAME:

PROJECT NAME:

Comments:

QUEST Email Results Etlilbuna@Cukency.com

Report To:

Sidney Cabiness/Bambi White

Address:

P.O. Box 305

Wynnewood, OK 73098

Phone/Fax Number: 405-665-6601(Sidney) 405-665-6543(Bambi)

Phone/Fax Number:

405-665-6602

13 June 2014

Sam McCormick
Coffeyville Resources Refining & Marketing, LLC
10 E. Cambridge Circle Suite 250
Kansas City, KS 66103

Subject: REW Analytical; Work Order No: 4060415

Under this cover, TRINITY ANALYTICAL LABORATORIES, INC., is pleased to submit the analytical results for the sample(s) received by the laboratory on 06/04/14 10:45.

Laboratory analyses were performed utilizing methodologies published in the:

- * Most recently promulgated update of EPA Publication SW-846, 3rd Edition;
- * Title 40 - Part 136 of the Code of Federal Regulations;
- * Applicable ASTM Methods; and/or,
- * Standard Methods for the Examination of Water and Wastewater, 20th Ed.
- * All analyses were performed on samples as received and calculated on a wet basis, unless otherwise noted on the analytical report.

All data contained in this package is intended to meet NELAC requirements. Any data that does not meet these requirements will be qualified. See specific analytical reports for details.

Field Sampling activities performed by Trinity were in accordance with Trinity SOP FS-001, FS-002, or FS-003.

Unless other arrangements have been made, samples will be retained for thirty days from the date of receipt. Results tabulated within this report relate only to the item(s) tested or to the sample(s) as received by the Laboratory.


If you need assistance in evaluating the results or have questions concerning this package, please contact our Client Service Department at 620-328-3222. To expedite your request, please have your Work Order Number, listed in the "Subject:" section of this letter, readily available.

This report shall not be reproduced except in full, without the written approval of the Laboratory.

Thank you for choosing Trinity as your testing laboratory.

Sincerely,

TRINITY ANALYTICAL LABORATORIES, INC.



Scott A. Popejoy
Laboratory Manager



Coffeyville Resources Refining & Marketing, LLC
10 E. Cambridge Circle Suite 250
Kansas City KS, 66103

Project: REW Analytical
Project Number: [none]
Project Manager: Sam McCormick

Reported:
06/13/14 09:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WW Zone 4 Change House 28 (4.5-5)	4060415-01	Solid	06/03/14 14:00	06/04/14 10:45

Coffeyville Resources Refining & Marketing, LLC
10 E. Cambridge Circle Suite 250
Kansas City KS, 66103

Project: REW Analytical
Project Number: [none]
Project Manager: Sam McCormick

Reported:
06/13/14 09:48

**WW Zone 4 Change House 28 (4.5-5)
4060415-01 (Solid)**

Analyte	Result	Quantitation Limit	Units	Analyst	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------------	-------	---------	-------	----------	----------	--------	-------

Trinity Analytical Laboratories

Extractable Petroleum Hydrocarbons by OA-2

Mineral Spirits Range Organics	ND	10	mg/kg	sp	B4F1106	06/11/14	06/12/14	OA-2	
Kerosene Range Organics	ND	10	"	"	"	"	"	"	
Jet Fuel Range Organics	ND	10	"	"	"	"	"	"	
Diesel Fuel Range Organics	ND	10	"	"	"	"	"	"	
Fuel Oil #6 Range Organics	ND	10	"	"	"	"	"	"	
Mineral Oil Range Organics	ND	10	"	"	"	"	"	"	
Motor Oil Range Organics	ND	10	"	"	"	"	"	"	
Surrogate: o-Terphenyl		76.4 %	28-121		"	"	"	"	

Volatile Petroleum Hydrocarbons by OA-1

TVPH	0.25	0.10	mg/kg	jg	B4F0905	06/09/14	06/09/14	OA-1	
Surrogate: Bromofluorobenzene		91.7 %	60-140		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		122 %	60-140		"	"	"	"	
Surrogate: Toluene-d8		106 %	60-140		"	"	"	"	

Metals by EPA 6000/7000 Series Methods

Antimony	16.5	5.00	mg/kg	cmc	B4F1011	06/10/14	06/11/14	EPA 6010B	
Arsenic	2.38	2.00	"	"	"	"	"	"	
Barium	121	1.00	"	"	"	"	"	"	
Beryllium	ND	1.00	"	"	"	"	"	"	
Cadmium	1.12	1.00	"	"	"	"	"	"	
Chromium	17.7	5.00	"	"	"	"	"	"	
Cobalt	ND	5.00	"	"	"	"	"	"	
Copper	5.98	5.00	"	"	"	"	"	"	
Lead	ND	5.00	"	"	"	"	"	"	
Nickel	9.57	5.00	"	"	"	"	"	"	
Selenium	ND	5.00	"	"	"	"	"	"	
Silver	ND	5.00	"	"	"	"	"	"	
Vanadium	29.8	5.00	"	"	"	"	"	"	
Zinc	29.8	5.00	"	"	"	"	"	"	

Coffeyville Resources Refining & Marketing, LLC
10 E. Cambridge Circle Suite 250
Kansas City KS, 66103

Project: REW Analytical
Project Number: [none]
Project Manager: Sam McCormick

Reported:
06/13/14 09:48

**WW Zone 4 Change House 28 (4.5-5)
4060415-01 (Solid)**

Analyte	Result	Quantitation Limit	Units	Analyst	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------------	-------	---------	-------	----------	----------	--------	-------

Trinity Analytical Laboratories

Mercury by CVAA EPA 7000 Methods

Mercury	ND	0.1000	mg/kg	cmc	B4F1104	06/11/14	06/11/14	EPA 7471	
---------	----	--------	-------	-----	---------	----------	----------	----------	--

Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.005	mg/kg	yg	B4F0905	06/09/14	06/09/14	EPA 8260B	
2-Butanone (MEK)	ND	0.050	"	"	"	"	"	"	
Carbon Tetrachloride	ND	0.005	"	"	"	"	"	"	
Carbon Disulfide	ND	0.005	"	"	"	"	"	"	
Chlorobenzene	ND	0.005	"	"	"	"	"	"	
Chloroform	ND	0.005	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.005	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.005	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.005	"	"	"	"	"	"	
1,4-Dioxane	ND	0.10	"	"	"	"	"	"	Z(1)
Ethylbenzene	ND	0.005	"	"	"	"	"	"	
Styrene	ND	0.005	"	"	"	"	"	"	
Tetrachloroethene	ND	0.005	"	"	"	"	"	"	
Toluene	ND	0.005	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.005	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.005	"	"	"	"	"	"	
Trichloroethene	ND	0.005	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.005	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.005	"	"	"	"	"	"	
m- & p-Xylene	ND	0.005	"	"	"	"	"	"	
o-Xylene	ND	0.005	"	"	"	"	"	"	
Surrogate: Bromofluorobenzene		91.7 %	50-157		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		122 %	31-170		"	"	"	"	
Surrogate: Toluene-d8		106 %	60-140		"	"	"	"	

Coffeyville Resources Refining & Marketing, LLC
10 E. Cambridge Circle Suite 250
Kansas City KS, 66103

Project: REW Analytical
Project Number: [none]
Project Manager: Sam McCormick

Reported:
06/13/14 09:48

**WW Zone 4 Change House 28 (4.5-5)
4060415-01 (Solid)**

Analyte	Result	Quantitation Limit	Units	Analyst	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------------	-------	---------	-------	----------	----------	--------	-------

Trinity Analytical Laboratories

Semivolatile Organic Compounds by EPA Method 8270C

Acenaphthene	ND	0.33	mg/kg	jrg	B4F0908	06/09/14	06/09/14	EPA 8270C	
Anthracene	ND	0.33	"	"	"	"	"	"	
Benz[a]anthracene	ND	0.33	"	"	"	"	"	"	
Benzo[a]Pyrene	ND	0.33	"	"	"	"	"	"	
Benzo[b]Fluoranthene	ND	0.33	"	"	"	"	"	"	
Benzo[k]Fluoranthene	ND	0.33	"	"	"	"	"	"	
Benzo[g,h,i]Perylene	ND	0.33	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.33	"	"	"	"	"	"	
Butyl Benzyl Phthalate	ND	0.33	"	"	"	"	"	"	
Chrysene	ND	0.33	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.33	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.33	"	"	"	"	"	"	
7,12-Dimethylbenz(a)anthracene	ND	1.6	"	"	"	"	"	"	Z(1)
2,4-Dimethylphenol	ND	0.33	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.33	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.33	"	"	"	"	"	"	
Di-n-octylphthalate	ND	0.33	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.33	"	"	"	"	"	"	
Fluoranthene	ND	0.33	"	"	"	"	"	"	
Fluorene	ND	0.33	"	"	"	"	"	"	
Indeno[1,2,3-cd]Pyrene	ND	0.33	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.33	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.33	"	"	"	"	"	"	
2-Methylphenol (o-cresol)	ND	0.33	"	"	"	"	"	"	
3- & 4-Methylphenol (m&p-Cresol)	ND	0.33	"	"	"	"	"	"	
Naphthalene	ND	0.33	"	"	"	"	"	"	
Nitrobenzene	ND	0.33	"	"	"	"	"	"	
Phenanthrene	ND	0.33	"	"	"	"	"	"	
Phenol	ND	0.33	"	"	"	"	"	"	
Pyrene	ND	0.33	"	"	"	"	"	"	
Pyridine	ND	0.33	"	"	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		43.8 %	29-107		"	"	"	"	
Surrogate: 2-Fluorophenol		29.5 %	16-91		"	"	"	"	
Surrogate: Nitrobenzene-d5		37.0 %	17-108		"	"	"	"	
Surrogate: Phenol-d6		39.2 %	13-108		"	"	"	"	
Surrogate: p-Terphenyl-d14		55.3 %	34-128		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		48.3 %	32-120		"	"	"	"	

Coffeyville Resources Refining & Marketing, LLC
10 E. Cambridge Circle Suite 250
Kansas City KS, 66103

Project: REW Analytical
Project Number: [none]
Project Manager: Sam McCormick

Reported:
06/13/14 09:48

Notes and Definitions

Z(1)	Non Certified Analyte
X(g)	Recovery is outside of control limits.
M(c)	The Matrix spike and / or matrix spike duplicate analyte recovery was outside of QC Limits because of matrix interference.
M(b)	The Matrix spike and / or matrix spike duplicate analyte recovery was outside of QC Limits because of high analyte concentration.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

NAME <u>Sam McLarnick</u> TITLE		PURCHASE ORDER NO.	
COMPANY <u>CCRM</u>		NAME <u>Sam McLarnick</u>	
MAILING ADDRESS <u>10 E. Cambridge Circle Dr.</u>		COMPANY <u>CCRM</u> DEPT.	
CITY/STATE/ZIP <u>Kansas City, Kansas</u>		MAILING ADDRESS <u>10 E. Cambridge Circle Dr.</u>	
TELEPHONE NO. <u>(918) 982-0457</u>		CITY/STATE/ZIP <u>Kansas City, KS</u>	
FAX NO.		PROJECT NAME <u>Down South</u>	

TURN AROUND TIME REQUESTED (Additional Charges May Apply.)
 Samples Must Be Received Before Noon or Turn Around Time Will Start the Next Business Day.
 Business Day(s) ☒ 5 ☐ 3 ☐ 2 ☐ Next ☐ Same
 Results: ☐ Mailed ☐ Faxed ☐ E-Mail Address _____

SAMPLE IDENTIFICATION/DESCRIPTION	MATRIX TYPE	DATE SAMPLED	TIME SAMPLED	PRES.	NO. OF CONT.	VOA	SVOA	METALS	PCB	OIL & GREASE	BTEX	BOD	TSS	pH	AMMONIA	E. COLI	REMARKS: (If Special Detection Limits or Analyte Lists are Required, Please Note Below.)
WW Zone 4 Change House 28455	S	6/3/14	1400	0	2												new list
																	6 vials swabs
																	metals, OA-7
																	OA-2

SAMPLER (SIGNATURE)	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
	RECEIVED FOR LABORATORY BY	DATE	TIME	CONDITION OF SAMPLES AT RECEIPT	CUSTODY SEALS INTACT	COOLER TEMP.
SHIPPED BY: <u>HO-JM</u>	<u>Jenna L. Brown</u>	<u>6/4/14</u>	<u>1045</u>	<u>6/4/14</u>	<u>1045</u>	<u>78°F</u>
COMMENTS OR REMARKS:				pH Check <input type="checkbox"/>		



INVOICE

Number: 4504-1406029

Date: 06/11/2014

115 East Fifth Street - P.O. Box C - Mound Valley, Kansas 67354 Phone: 620-328-3222 Fax: 620-328-2033

Coffeyville Resources Refining & Marketing, Accounts Payable P.O. Box 410420 Kansas City MO 64141-0420	Results Submitted To:	Coffeyville Resources Refining & Marketing, Sam McCormick 10 E. Cambridge Circle Suite 250 Kansas City KS 66103
---	-----------------------------	--

Terms	P O Number	COC Number	Work Order (s)	Lab Contact
Net 30	KSR142545		4060415	Scott Popejoy

Description	Quantity	Unit Price	TAT Factor	Subtotal
Total Volatile Petroleum Hydrocarbons	1	\$51.00	1.00	\$51.00
Volatiles, Total Purgeable	1	\$147.40	1.00	\$147.40
Total Extractable Petroleum Hydrocarbons	1	\$52.50	1.00	\$52.50
Semi-Volatiles, Total Extractable	1	\$226.80	1.00	\$226.80
Met-ICP - CRRM-14	1	\$119.10	1.00	\$119.10
CVAA Mercury - Solid	1	\$28.40	1.00	\$28.40

Invoice
Total: **\$625.20**

Project: REW Analytical



SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

July 23, 2014

Mr. Sam McCormick
Project Manager
Wynnewood Refining Company
10 East Cambridge Circle Drive, Suite 250
Kansas City, Kansas 66103

Re: Notification of Newly Identified Solid Waste Management Unit (SWMU), Wynnewood Refining Company, Wynnewood Oklahoma, Permit #000396549 (Permit)

Dear Mr. McCormick:

On June 25, 2014 the Land Protection Division of the Department of Environmental Quality (DEQ) received the above-referenced notification. The notification outlined that on May 28, 2014 buried drums were encountered during exploratory work for a new building east of the asphalt control building. A total of 28 borings were installed to approximately 3-7 feet below ground surface, with the contents within each boring catalogued for mapping purposes and screened using a photoionization detector to identify locations for confirmation sampling.

A total of three samples were collected and analyzed to determine if there had been a release of any hazardous constituents from the drum disposal area. All of the analytes detected were below EPA Regional Screening Levels.

Information required by permit (Section VII.D.1) was included in the notification. Permit condition VII.D.1.a requires the location of a newly-identified SMWU be placed on a topographic map required under 40 CFR Section 270.14(b)(19), and to indicate all existing units in relation to other SWMUs.

The notification attempted to meet these requirements by including three figures: a topographic map (Figure 1), a site map with existing SWMUs (Figure 2), and the location of the exploratory borings (Figure 3). However, Figure 1 is at too great of a scale (1 inch to 2,000 feet) to be of much use.

The DEQ requests that a new topographic map that is the same size and scale as Figure 2 (1 inch to 600 feet) be submitted. A topographic map of that size and scale would more adequately meet the requirements of 40 CFR Section 270.14(b)(19).




Mr. Sam McCormick
July 23, 2014
Page: 2

Upon receipt of the requested topographic map the new SWMU will be catalogued with the existing SMUWs in Table VII-1 of the permit.

Questions may be directed to Adrian Simmons at (405) 702-5217.

Sincerely,


Donald A. Hensch, P.E.
Engineering Manager
RCRA Permits and Corrective Actions Section
Land Protection Division

DAH/as

cc: David Vogler (6PD-O), EPA Region 6



10 East Cambridge Circle Dr. Suite 250
Kansas City, Kansas 66103
Telephone: (913) 982-0457 Facsimile: (913) 905-0290
E-mail: saMcCormick@CVREnergy.com

July 31, 2014

Donald A. Hensch, P.E.
Engineering Manager, RCRA Permits and Corrective Action
Land Protection Division
Oklahoma Department of Environmental Quality
707 N. Robinson
Oklahoma City, OK 73102

RE: Notification of Newly Identified Potential SWMU – Response to Comments
Wynnewood Refining Company, LLC (RCRA Permit No. 000396549)
Wynnewood, Oklahoma

Dear Mr. Hensch:

On July 23, 2014, in response to the notification of a newly identified Solid Waste Management Unit (SWMU), the Oklahoma Department of Environmental Quality (ODEQ) requested a new topographic map. Two new maps showing site topography are attached as follows:

- Figure 1b: Site Map with Topography
- Figure 1c: Site Map with Topography and Aerial View

In order to complete the SWMU notification, please add the figure to the notification that was dated June 23, 2014. If you need additional information or have any questions, please feel free to contact me at 913-982-0457 or Jerome McSorley in our Oklahoma City office at 405-945-0090.

Sincerely,

A handwritten signature in black ink, appearing to read "Sam A. McCormick", enclosed within a large, loopy oval shape.

Sam A. McCormick
Project Manager

SAM:jdm


C:\Users\jdmcsorley\Desktop\Projects\WRC\Project Management\Correspondence_Meetings\ODEQ\ODEQ Comments Sept 2013\WRC_072914_response to comments_draft.doc

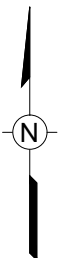
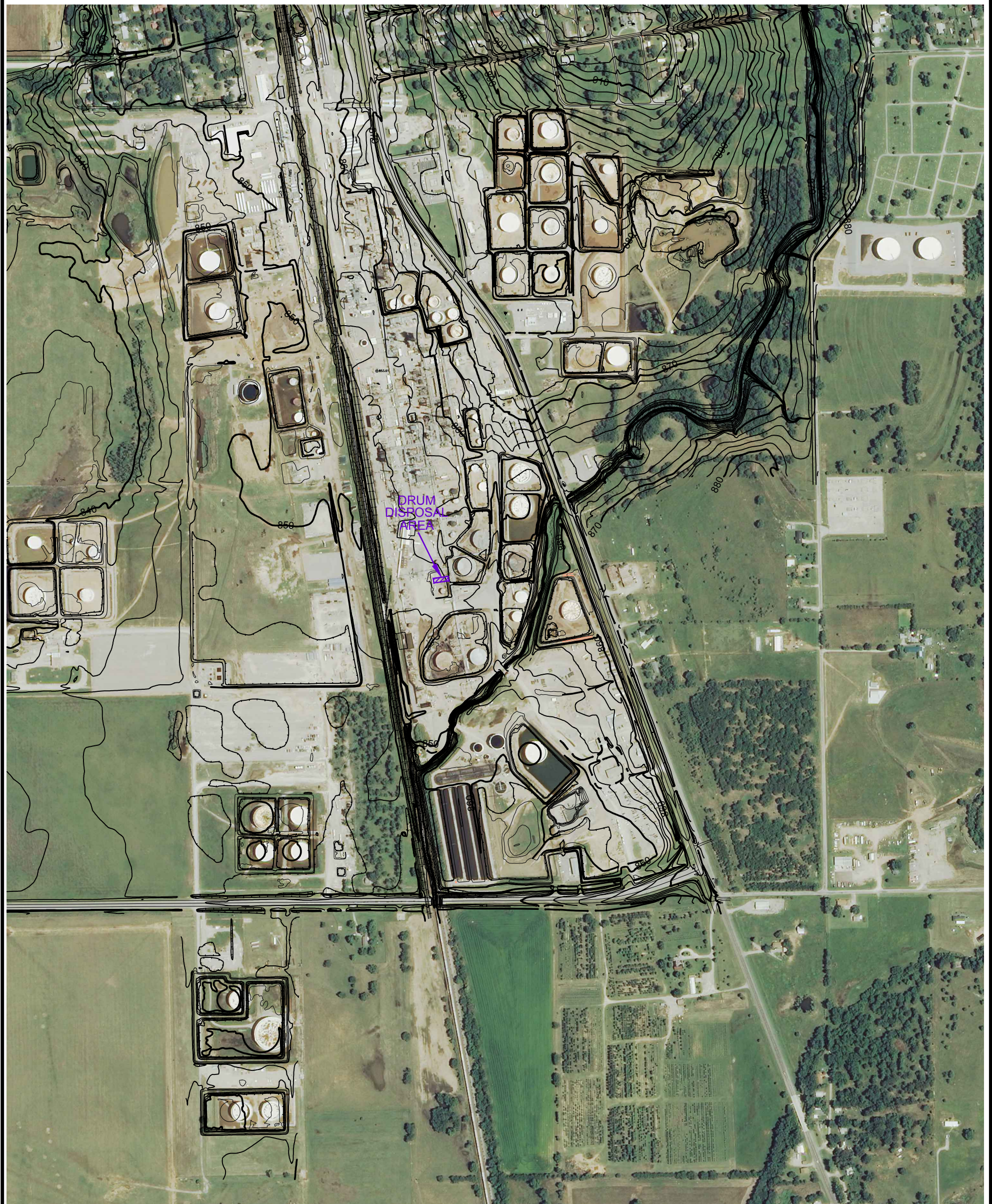
Enclosure

cc/encl:

Jerome McSorley – CVR Energy, Inc.
Sidney Cabiness – Wynnewood Refining Company, LLC
Evan Hilburn – Wynnewood Refining Company, LLC
Christine Warford – WSP USA Corp.



 WSP USA Corp. 123 North Third Street, Suite 507 Minneapolis, Minnesota 55401 (612) 343-0510 www.wspgroup.com/usa	Figure 1B	WYNNEWOOD REFINING COMPANY, LLC WYNNEWOOD, OKLAHOMA PREPARED FOR WYNNEWOOD REFINING COMPANY, LLC WYNNEWOOD, OKLAHOMA	Drawn By: LS 7/31/2014	
	SITE MAP WITH TOPOGRAPHY		Checked:	
			Approved:	
			DWG Name: 00028249-127	



0 600 1,200
SCALE IN FEET



WSP USA Corp.
123 North Third Street, Suite 507
Minneapolis, Minnesota 55401
(612) 343-0510
www.wspgroup.com/usa

Figure 1C

SITE MAP WITH TOPOGRAPHY
AND AERIAL VIEW

WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA

PREPARED FOR
WYNNEWOOD REFINING COMPANY, LLC
WYNNEWOOD, OKLAHOMA

Drawn By: LS 7/31/2014

Checked:

Approved:

DWG Name: 00028249-126



SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

August 6, 2014

Mr. Sam McCormick
Project Manager
Wynnewood Refining Company
10 East Cambridge Circle Drive, Suite 250
Kansas City, Kansas 66103

Re: Supplemental Information Regarding Notification of Newly Identified Solid Waste Management Unit (SWMU), Wynnewood Refining Company, Wynnewood Oklahoma, Permit #000396549 (Permit), EPA ID#OKD000396549

Dear Mr. McCormick:

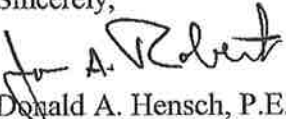
On June 25, 2014 the Land Protection Division of the Department of Environmental Quality (DEQ) received a notification of a newly identified SWMU at the Wynnewood Refining Company. On July 23, 2014 the DEQ requested submission of additional topographic maps the same size and scale as Figure 2 (1 inch to 600 feet). Two new maps were submitted July 31, 2014.

With the receipt of the new maps (Figures 1B and 1C) information required by permit (Section VII.D.1) has been adequately addressed.

The new SWMU will be catalogued with the existing SMUWs in Table VII-1 of the permit.

Questions may be directed to Adrian Simmons at (405) 702-5217.

Sincerely,

for  A. Hensch

Donald A. Hensch, P.E.
Engineering Manager
RCRA Permits and Corrective Actions Section
Land Protection Division

DAH/as

cc: David Vogler (6PD-O), EPA Region 6

