

District I
1625 N French Dr, Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

7455
**Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application**

Type of action: ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
☒ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
☐ Modification to an existing permit
☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

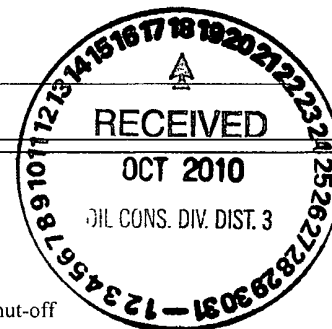
1
Operator HALLADOR PETROLEUM LLP OGRID # 12672
Address 1660 LINCOLN ST., SUITE 2700, DENVER, CO 80264
Facility or well name HORTON 4
API Number 30-045-60074 OCD Permit Number _____
U/L or Qtr/Qtr M Section 27 Township 32 N Range 12 W County SAN JUAN
Center of Proposed Design Latitude 36.95243° N Longitude 108.08832° W NAD ☐ 1927 ☒ 1983
Surface Owner ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

2
☐ **Pit:** Subsection F or G of 19 15 17 11 NMAC
Temporary ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams ☐ Welded ☐ Factory ☐ Other _____ Volume bbl Dimensions L' x W' x D'

3
☐ **Closed-loop System:** Subsection H of 19 15 17 11 NMAC
Type of Operation ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams ☐ Welded ☐ Factory ☐ Other _____

4
☒ **Below-grade tank:** Subsection I of 19 15 17 11 NMAC
Volume 100 bbl Type of fluid produced water
Tank Construction material single wall double bottom steel
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☒ Visible sidewalls only ☐ Other _____
Liner type Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

5
☐ **Alternative Method:**
Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval



6	<p>Fencing: Subsection D of 19 15 17 11 NMAC (<i>Applies to permanent pits, temporary pits, and below-grade tanks</i>)</p> <p><input type="checkbox"/> Chain link, six feet in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)</p> <p><input type="checkbox"/> Four foot height, four strands of barbed wire evenly spaced between one and four feet</p> <p><input checked="" type="checkbox"/> Alternate Please specify 48" high (= 36" hog wire + re-bar top)</p>																																								
7	<p>Netting: Subsection E of 19 15 17 11 NMAC (<i>Applies to permanent pits and permanent open top tanks</i>)</p> <p><input type="checkbox"/> Screen <input type="checkbox"/> Netting <input checked="" type="checkbox"/> Other expanded metal</p> <p><input type="checkbox"/> Monthly inspections (If netting or screening is not physically feasible)</p>																																								
8	<p>Signs: Subsection C of 19 15 17 11 NMAC</p> <p><input checked="" type="checkbox"/> 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers</p> <p><input type="checkbox"/> Signed in compliance with 19 15 3 103 NMAC</p>																																								
9	<p>Administrative Approvals and Exceptions:</p> <p>Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance</p> <p>Please check a box if one or more of the following is requested, if not leave blank:</p> <p><input type="checkbox"/> Administrative approval(s) Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval</p> <p><input type="checkbox"/> Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval</p>																																								
10	<p>Siting Criteria (regarding permitting): 19 15 17 10 NMAC</p> <p>Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 85%;">Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank</td> <td style="width: 15%; text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells</td> <td></td> </tr> <tr> <td>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- Topographic map, Visual inspection (certification) of the proposed site</td> <td></td> </tr> <tr> <td>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA </td> </tr> <tr> <td>- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image</td> <td></td> </tr> <tr> <td>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to permanent pits</i>)</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA </td> </tr> <tr> <td>- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image</td> <td></td> </tr> <tr> <td>Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site</td> <td></td> </tr> <tr> <td>Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- Written confirmation or verification from the municipality, Written approval obtained from the municipality</td> <td></td> </tr> <tr> <td>Within 500 feet of a wetland</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site</td> <td></td> </tr> <tr> <td>Within the area overlying a subsurface mine</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</td> <td></td> </tr> <tr> <td>Within an unstable area</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map</td> <td></td> </tr> <tr> <td>Within a 100-year floodplain</td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </td> </tr> <tr> <td>- FEMA map</td> <td></td> </tr> </table>	Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells		Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Topographic map, Visual inspection (certification) of the proposed site		Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image		Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to permanent pits</i>)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image		Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site		Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Written confirmation or verification from the municipality, Written approval obtained from the municipality		Within 500 feet of a wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site		Within the area overlying a subsurface mine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division		Within an unstable area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map		Within a 100-year floodplain	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- FEMA map	
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Within a 100-year floodplain	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- FEMA map																																									

11

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19 15 17 9 NMAC
☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19 15 17 9 NMAC
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
☐ Previously Approved Design (attach copy of design) API Number _____ or Permit Number _____

12

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19 15 17 9
☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 15 17 10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
☐ Previously Approved Design (attach copy of design) API Number: _____
☐ Previously Approved Operating and Maintenance Plan API Number _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13

Permanent Pits Permit Application Checklist: Subsection B of 19 15 17 9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC
☐ Climatological Factors Assessment
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Leak Detection Design - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Quality Control/Quality Assurance Construction and Installation Plan
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
☐ Emergency Response Plan
☐ Oil Field Waste Stream Characterization
☐ Monitoring and Inspection Plan
☐ Erosion Control Plan
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

14

Proposed Closure: 19 15 17 13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Closed-loop System
☐ Alternative
 Proposed Closure Method ☒ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15

Waste Excavation and Removal Closure Plan Checklist: (19 15 17 13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC
☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

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Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19 15 17 13 D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name _____ Disposal Facility Permit Number _____

Disposal Facility Name _____ Disposal Facility Permit Number _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

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Siting Criteria (regarding on-site closure methods only): 19 15 17 10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application - Visual inspection (certification) of the proposed site, Aerial photo, Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality, Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area - Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

18

On-Site Closure Plan Checklist: (19 15 17 13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

19
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief
Name (Print) BRIAN WOOD Title CONSULTANT
Signature _____ Date 12-11-08
e-mail address brian@permitswest.com Telephone (505) 466-8120

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OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)
OCD Representative Signature: Jonathan D. Kelly Approval Date: 10/26/2011
Title: Compliance Officer OCD Permit Number: _____

21
Closure Report (required within 60 days of closure completion): Subsection K of 19 15 17 13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.
☐ Closure Completion Date: 08/19/2010

22
Closure Method:
☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain

23
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.
Disposal Facility Name Basin Disposal Disposal Facility Permit Number NM-01-010
Disposal Facility Name _____ Disposal Facility Permit Number _____
Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No
Required for impacted areas which will not be used for future service and operations
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24
Closure Report Attachment Checklist: *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*
☒ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☒ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☒ Disposal Facility Name and Permit Number
☒ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)
On-site Closure Location Latitude _____ Longitude _____ NAD ☐ 1927 ☐ 1983

25
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan
Name (Print) Brian Wood Title Consultant
Signature Brian Wood Date 10/11/10
e-mail address brian@permitswest.com Telephone 505-466-8120

BELOW-GRADE TANK CLOSURE REPORT

Hallador Petroleum LLP

Horton 4

CLOSURE STEPS:

- (1) Notified the surface owner (Duane Miller Estate) by certified mail, return receipt requested, of the plans to close the below-grade tank. A copy of the letter with the signed returned receipt is attached as Appendix 1
- (2) Notified the Aztec OCD office on June 16, 2010 (Brandon Powell – 344-6178, Ext 15) by email prior to the planned closure operation. A copy of the email notification is attached as Appendix 2.
- (3) There were liquids in the tank at the time of closure. The liquids were transported to Basin Disposal (NM-01-010).
- (4) The below-grade tank was excavated and placed in the same location after reclamation for use in an above-ground set up.
- (5) The soils beneath the below-grade tank were tested to determine whether a release had occurred
 - a. Collected a five point, composite sample on July 1, 2010 that was analyzed by Envirotech Analytical Laboratory (results attached as Appendix 3).
 - i. BTEX: ND
 - ii. TPH: 591 mg/Kg (method 418.1); no visible hydrocarbon staining; no remediation action taken.
 - iii. Chlorides: 15 mg/Kg
 - b. Re-sampled for TPH to be analyzed by method 8015 on July 14, 2010. Results were "ND"
 - c. Submitted C-141 with Laboratory Results to OCD on July 27, 2010
- (6) The excavation was back-filled with compacted, non-waste containing earthen material in a manner that will prevent ponding and erosion. A photo of the backfill and tank placement is attached as Appendix 4.
- (7) The area is needed for operations therefore the tank was placed above ground in the same location. Seeding and final reclamation will take place upon P&A of the well.

FINAL CLOSURE REPORT:

For C-144, including attachments documenting all closure activities, including composite sampling results was submitted to the OCD within 60 days of closure completion.

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

June 12, 2010

Duane Miller Estate
Attn: Steven L. Miller
610 West Miller St.
Bloomfield, NM 87413

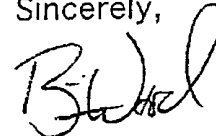
Dear Mr. Miller:

As required by NMOCD rule Subsection J of 19.15.17.13 NMAC, I am notifying BLM that, Hallador Petroleum LLP plans to close the following below grade tank on your surface in San Juan County, NM:

<u>Well</u>	<u>API Number</u>	<u>Location</u>
Horton 4	30-045-60074	SWSW 27-32n-12w

Please call me if you have any questions.

Sincerely,



Brian Wood

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<p><input checked="" type="checkbox"/> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p><input checked="" type="checkbox"/> Print your name and address on the reverse so that we can return the card to you.</p> <p><input checked="" type="checkbox"/> Attach this card to the back of the mailpiece, or on the front if space permits.</p>	<p>A. Signature <input checked="" type="checkbox"/> <i>Steven L. Miller</i> <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) <i>Steven L. Miller</i> C. Date of Delivery <i>6-13-10</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p>Duane Miller Estate Attn: Steven L. Miller 601 West Miller St. Bloomfield, NM 87413</p> <p>Hallador - Horton 4</p>	<p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>Article Number (Transfer from service label)</p> <p>7006 0100 0003 7769 2758</p>	

From: Powell, Brandon, EMNRD
Sent: Wednesday, June 16, 2010 2:26 PM
To: bschenault@gmail.com
Subject: RE: Closure Approval

Bob-

All of these permits were approved on 3/9/10 so you will be ok to start early next week.

Thank You

Brandon Powell

Environmental Specialist

New Mexico Oil Conservation

1000 Rio Brazos Rd, Aztec NM 87410

Office: (505) 334-6178 ext 15

E-mail: Brandon.Powell@state.nm.us

From: bschenault@gmail.com [mailto:bschenault@gmail.com]

Sent: Wednesday, June 16, 2010 11:58 AM

To: Powell, Brandon, EMNRD

Subject: Closure Approval

Brandon,

We are requesting a closure approval for the Horton # 4, Horton # 4B, Horton # 4C, and the Horton # 11 for Hallador Petroleum. We are planning on starting on the Horton # 4C first. We would like to start early next week if possible. Please let me know if there is anything else you need.

Thanks,

Bob Chenault

Chenault Consulting Inc.

4800 College Blvd Suite # 105

Farmington, NM 87402

Office - 505-325-7707

Fax - 505-325-7714

Cell - 505-860-0188

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EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client: Hallador Petroleum
Sample ID: 5 Pt Comp
Laboratory Number: 54985
Chain of Custody: 9843
Sample Matrix: Soil
Preservative: Cool
Condition: Intact

Project #: 10067-0001
Date Reported: 07-08-10
Date Sampled: 07-01-10
Date Received: 07-01-10
Date Analyzed: 07-07-10
Date Extracted: 07-06-10
Analysis Requested: BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %


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

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

Comments: Horton #4



Analyst



Review

APPENDIX 3-1



**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	N/A	Project #	N/A
Sample ID:	0707BBLK QA/QC	Date Reported:	07-07-10
Laboratory Number	55020	Date Sampled	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-07-10
Condition:	N/A	Analysis	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect. Limit
		Accept. Range 0 - 15%			
Benzene	4.4610E+006	4.4699E+006	0.2%	ND	0.1
Toluene	3.7622E+006	3.7697E+006	0.2%	ND	0.1
Ethylbenzene	2.8177E+006	2.8234E+006	0.2%	ND	0.1
p,m-Xylene	6.8481E+006	6.8618E+006	0.2%	ND	0.1
o-Xylene	2.4700E+006	2.4750E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	6.7	6.8	1.5%	0 - 30%	0.9
Toluene	7.8	9.6	23.1%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	5.5	5.7	3.6%	0 - 30%	1.2
o-Xylene	4.0	4.3	7.5%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	6.7	50.0	52.2	92.1%	39 - 150
Toluene	7.8	50.0	48.0	83.0%	46 - 148
Ethylbenzene	ND	50.0	48.4	96.8%	32 - 160
p,m-Xylene	5.5	100	100	94.5%	46 - 148
o-Xylene	4.0	50.0	47.8	88.5%	46 - 148

ND - Parameter not detected at the stated detection limit.

References Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
 Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 54956-54957, 54981-54983, 54985-54986, 55020-55021

Analyst

Review

APPENDIX 3-2



envirotech
Analytical Laboratory

**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client:	Hallador Petroleum	Project #	10067-0001
Sample ID:	5 Pt Comp	Date Reported:	07-08-10
Laboratory Number:	54985	Date Sampled:	07-01-10
Chain of Custody No:	9843	Date Received:	07-01-10
Sample Matrix:	Soil	Date Extracted:	07-02-10
Preservative:	Cool	Date Analyzed	07-02-10
Condition:	Intact	Analysis Needed:	TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	591	5.5

ND = Parameter not detected at the stated detection limit.

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

Comments: **Horton #4**


Analyst


Review

APPENDIX 3-3



envirotech
Analytical Laboratory

**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS
QUALITY ASSURANCE REPORT**

Client:	QA/QC	Project #:	N/A
Sample ID:	QA/QC	Date Reported:	07-02-10
Laboratory Number:	07-02-TPH.QA/QC 54974	Date Sampled:	N/A
Sample Matrix:	Freon-113	Date Analyzed:	07-02-10
Preservative:	N/A	Date Extracted:	07-02-10
Condition	N/A	Analysis Needed	TPH

Calibration	I-Cal Date	C-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
	06-30-10	07-02-10	1,716	1,770	3.1%	+/- 10%

Blank Conc. (mg/Kg)	Concentration	Detection Limit
TPH	ND	9.6

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
TPH	94.8	86.5	8.8%	+/- 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	94.8	2,000	2,090	99.8%	80 - 120%

ND = Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 54974-54975; 54979-54980; 54988, 54899; 54954-54955 and 54985-54986


Analyst


Review

APPENDIX 3-4



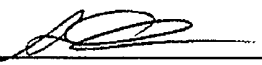
Chloride

Client:	Hallador Petroleum	Project #	10067-0001
Sample ID:	5 Pt Comp	Date Reported	07-08-10
Lab ID#:	54985	Date Sampled:	07-01-10
Sample Matrix:	Soil	Date Received	07-01-10
Preservative:	Cool	Date Analyzed:	07-07-10
Condition:	Intact	Chain of Custody:	9843

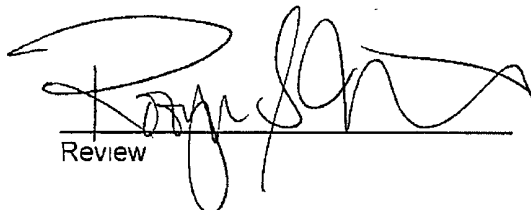
Parameter	Concentration (mg/Kg)
Total Chloride	15

Reference: U.S E.P.A , 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992

Comments: Horton #4



Analyst



Review

APPENDIX 3-5

CHAIN OF CUSTODY RECORD

09843

Client: <i>Hallador Petroleum</i>			Project Name / Location: <i>HORTON #4</i>			ANALYSIS / PARAMETERS																		
Client Address:			Sampler Name: <i>F. Mc DONALD</i>																					
Client Phone No.:			Client No. <i>10067-0001</i>																					
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact	
<i>5 PT Comp</i>	<i>7/1/10</i>	<i>1230</i>	<i>54985</i>	<i>Soil</i> Sludge Solid Aqueous	<i>1</i>					<i>X</i>								<i>X</i>	<i>X</i>				<i>✓</i>	<i>✓</i>
				Soil Solid Aqueous																				
				Soil Solid Aqueous																				
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Relinquished by: (Signature) <i>[Signature]</i>			Date <i>7/1/10</i>	Time <i>1325</i>	Received by: (Signature) <i>Randi Vaguera</i>			Date <i>7/1/10</i>			Time <i>13:25</i>													
Relinquished by: (Signature)					Received by: (Signature)																			
Relinquished by: (Signature)					Received by: (Signature)																			



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

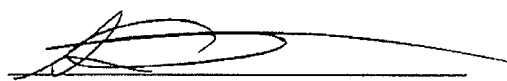
Client:	Hallador Petroleum	Project #:	10067-0001
Sample ID:	5 Pt. Comp	Date Reported:	07-15-10
Laboratory Number:	55145	Date Sampled:	07-14-10
Chain of Custody No:	9960	Date Received:	07-14-10
Sample Matrix:	Soil	Date Extracted:	07-14-10
Preservative:	Cool	Date Analyzed:	07-15-10
Condition:	Intact	Analysis Requested:	8015 TPH

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

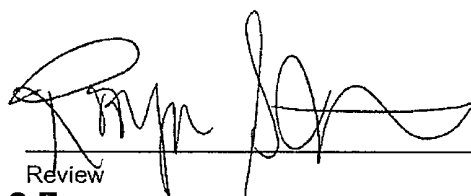
ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Horton #4**



Analyst



Review

APPENDIX 3-7

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	07-15-10 QA/QC	Date Reported:	07-15-10
Laboratory Number:	55143	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-15-10
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

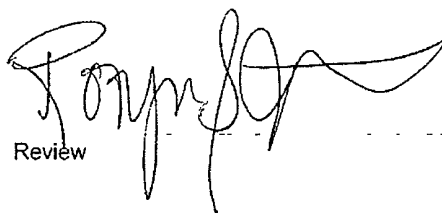
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	255	102%	75 - 125%
Diesel Range C10 - C28	ND	250	252	101%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 55141, 55143-55145 and 55156


 Analyst


 Review

APPENDIX 3-8

CHAIN OF CUSTODY RECORD

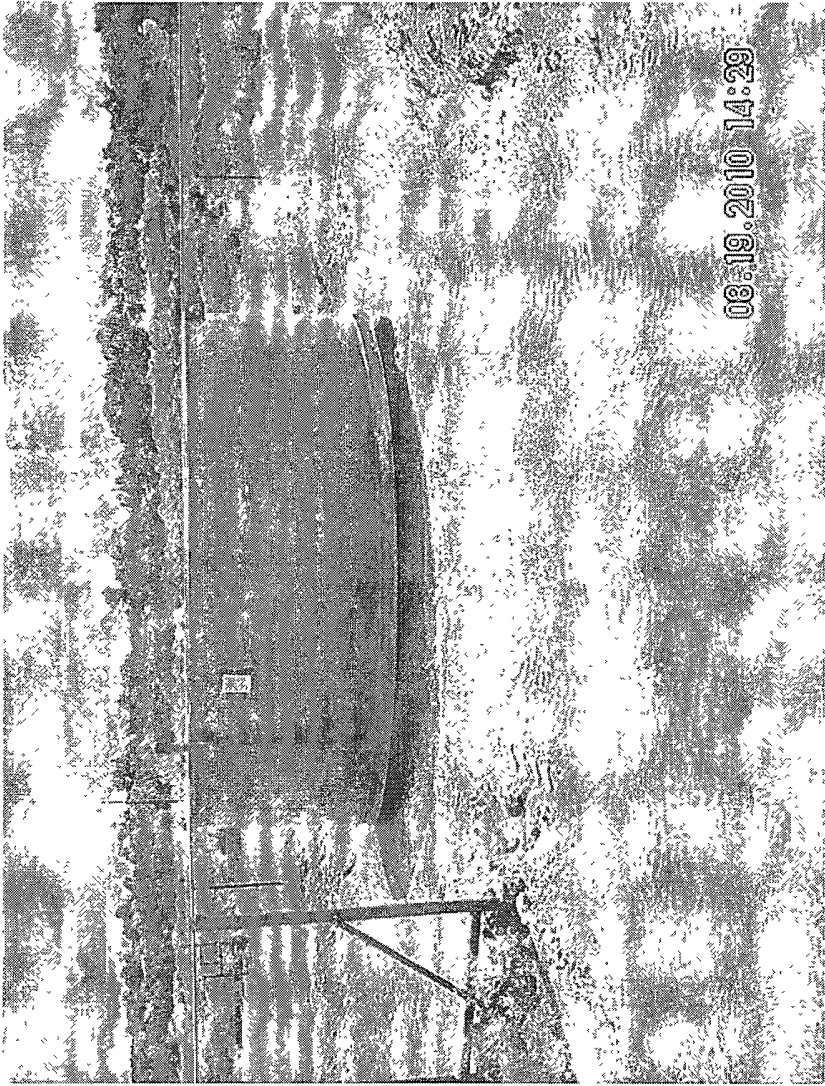
09960

Client: <u>Hallador Petroleum</u>			Project Name / Location: <u>HORTON #4</u>			ANALYSIS / PARAMETERS																
Client Address:			Sampler Name: <u>F. McDaniel</u>																			
Client Phone No.:			Client No.: <u>10067-0001</u>																			
Sample No / Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl		TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact	
<u>574 COMP</u>	<u>7/14/10</u>	<u>15:00</u>	<u>55145</u>	<u>Soil Solid</u>	<u>1</u>			<u>X</u>													<u>✓</u>	<u>✓</u>
				Soil Solid																		
				Soil Solid																		
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Relinquished by: (Signature)					Received by: (Signature)																	



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APPENDIX 4