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Nemaha County

121011-SM-1229

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Nebraska Dept of Environmental Quality

Nebraska Department of Environmental Quality

RBCA Tier 1 Site Investigation Report Forms for Petroleum Release Sites

(For Use by Consultants)

FACILITY NAME:	*Magellan Pipeline MP 110*
LOCATION:	*Nemaha County*
NDEQ SPILL NO.:	*998963*
NDEQ IIS NO.:	*RA 121011-SM-1229*
CONSULTANT PROJECT NO.:	*65383*
CONSULTANT:	*Burns & McDonnell*
COMPLETION DATE:	*March 16, 2012*
PREPARED BY:	*Burns & McDonnell*
REVIEWED BY:	*Magellan Pipeline Company, L.P.*

20120032844

(Version 3.0, revised February 2009)

Burns & McDonnell
9400 Ward Parkway
Kansas City, Missouri 64114
PO Box 419173 (64141-6173)
www.burnsmcd.com

Burns & McDonnell
SINCE 1898

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APR 26 2012
Nebraska Dept of Environmental Quality

Phone: (816) 333-9400
Fax: (816) 822-3494

TRANSMITTAL MEMORANDUM

VIA FedEx NDEQ Suite 400, The Atrium 1200 N Street Lincoln, NE 68509 Attn: Mr. Scott McIntyre	Date: April 24, 2012 MAGELLAN PIPELINE COMPANY, L.P. – MP 110, Nemaha County, NE

We are transmitting:

No.	Description
1	Tier 1 Site Investigation Report
1	Surface Water and Domestic Well Monitoring Plan

Scott,

Please find enclosed NDEQ's copies of the documents referenced above.

Thanks,

Trevor

Copies to:
File
Lorraine Woxell, Magellan

By: Trevor Gustafson
Project Manager
(816) 822-3464
tgustafson@burnsmcd.com

NDEQ RBCA TIER 1 REPORT FORMS

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12.	Free Product		☑
13.	References and Protocols		☑
	ATTACHMENTS		
	All maps submitted must include a bar scale, legend, north arrow, location of all known soil borings and monitoring wells, and date of map, where appropriate.		
1.	Topographic Map		☑
2.	Area Map		☐
3.	Site Map		☑
4.	Free Product Map		☑
5.	Boring Logs		☑
6.	Monitoring Well		☑
7.	Laboratory Analysis		☑
8.	Geologic Cross		☑
9.	Well Survey		☑

OTHER ATTACHMENTS:

_____

_____

_____

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 1
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

EXECUTIVE SUMMARY

Facility or file name:	*Magellan Pipeline Company MP 110*		
Current facility name (if different from above):	*N/A*		
Facility address or site location:	*Nemaha County, NE*		
Status of fuel storage/distribution:	☐ Active	☐ Inactive	☑ NA
Is surface soil contamination present?	☑ Yes	☐ No	
Are subsurface soils impacted?	☑ Yes	☐ No	
Is ground water impacted?	☑ Yes	☐ No	☐ NA
Has the source(s) of release been identified?	☑ Yes	☐ No	
Was free product detected during the Tier 1 investigation?	☑ Yes	☐ No	
If yes, was the free product plume fully delineated?	☑ Yes	☐ No	
Were vapors detected in any on-site subsurface structures?	☐ Yes	☑ No	
Has surface water been impacted by the release?	☑ Yes	☐ No	
Were emergency actions initiated?	☑ Yes	☐ No	
Average depth of contamination in subsurface soils:	*1.97* ft	60.0456 cm	
Shallowest depth to ground water:	*5* ft	☐ Not measured	
Average depth to ground water:	*14* ft	☐ Not measured	
Distance to nearest drinking water supply well:	*2,300* ft	☐ municipal	☑ domestic
Distance to nearest non-potable water supply well:	*N/A* ft	type:	
Distance to nearest downgradient water supply well:	*N/A* ft	☐ municipal	☐ domestic
Is there evidence of vertical migration of the contaminant plume?	☑ Yes	☐ No	☐ NA

Statement of Completion & Responsible Party/Consultant Signature Block

The consultant representative acknowledges that this report meets the minimum requirements for a Tier 1 investigation at this petroleum release site, as specified in the Department's Risk-Based Corrective Action (RBCA) at Petroleum Release Sites: Tier 1/Tier 2 Assessments and Reports Guidance Document. Any procedures that differ from the guidance document specifications are noted in the report, were approved by the Department and are accompanied by appropriate documentation. The responsible party acknowledges that they have read (or discussed with their consultant), this site investigation report and are aware of their responsibility for the timely submission to the Department.

Consultant Representative Signature — Date: 4/18/12

Responsible Party Signature — Date: 4/18/12

ADDITIONAL NOTES

Recommended attachments: None.

(Version 3.0, revised January 2009)

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 2a
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

FACILITY/FILE INFORMATION

Facility or file name:	*Magellan Pipeline Company MP 110*
Facility address or site location:	*SE of CR 724 and 645 intersection*
County:	*Nemaha*
Legal Location (¼, ¼, ¼, Sec, T, R):	*NW ¼, NE ¼ SW ¼, Sec. 15, T4N, R15E*
Responsible Party:	*Magellan Pipeline Company L.P. Attn: Lorraine Woxell, PM*
Responsible Party mailing address:	*One Williams Center, 29th Floor*
	Tulsa, OK 74172
Responsible Party phone number:	*(918) 574-7467*
Property owner:	*William Hutton*
Property owner mailing address:	*612 11th Street*
	Auburn, NE 68305
Property owner phone number:	*(402) 274 - 4721*
Other contacts:	

ADDITIONAL NOTES

Recommended attachments: Topographic map

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 2b
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

CONSULTANT AND LICENSING INFORMATION

Consulting Firm:	*Burns & McDonnell Engineering*
Consulting Firm mailing address:	*9400 Ward Parkway*
	Kansas City, MO 64114
Consulting Firm Project Manager:	*Trevor Gustafson*
Consultant phone numbers:	*Direct: (816) 822 - 3464*
	Mobile: (816) 812 - 1903

Nebraska Department of Health & Human Services Water Well Licenses

List all personnel and subcontractors involved in installing or sampling wells during this investigation.

License No.	*License Type*	*Personnel/Subcontractor Name*
19287	*Driller*	*Razek Evironmental*

ADDITIONAL NOTES

NDEQ RBCA TIER 1 REPORT	**Tier 1 Investigation Form - 3a**
FACILITY NAME: Magellan Pipeline MP 110	**CONSULTANT: Burns & McDonnell**
NDEQ SPILL NO.: 998963	**NDEQ IIS NO.: RA 121011-SM-1229**
COMPLETION DATE: 16-Mar-12	**PREPARED BY: Burns & McDonnell**

RELEASE CHARACTERIZATION

PETROLEUM RELEASE HISTORY

NDEQ Spill Number	Location/Source	Product/Quantity
998963	*Mile Post 110/ #3-8"*	*Diesel #2/650 bbls*
998963	*Mile Post 110/ #5-12"*	*Gasoline/ 1,529 bbls, Jet Fuel/ 655 bbls*

SOURCE(S) OF RELEASE (Check all that apply)

- ☐ Surface Spills
- ☐ Load Out Racks (includes overfills)
- ☐ Piping
- ☐ Dispenser Islands (includes vessel overfills)
- ☐ USTs (includes UST overfills)
- ☐ ASTs (includes AST overfills)
- ☐ Transportation Vessels
- ☑ Interstate/Intrastate Pipelines
- ☐ Unknown
- ☐ Other (specify)

SUBSTANCE(S) RELEASED (Check all that apply)

- ☑ Gasoline
- ☑ Diesel/#2 Fuel Oil
- ☐ Used Oil
- ☐ AV Gas
- ☑ Jet Fuel: JP 8
- ☐ Kerosene
- ☐ Other Fuel Oil/Heavy Distillate (specify)

Other product (specify)

SUMMARY OF RELEASE

			(Provide explanatory notes below)
Has the source(s) of release been identified?	☑ YES	☐ NO	*Mile Post 110 #3-8" and #5-12" Pipelines*
Has the release been abated?	☑ YES	☐ NO	
Were emergency actions initiated?	☑ YES	☐ NO	
Are surface soils impacted?	☑ YES	☐ NO	
Are subsurface soils impacted?	☑ YES	☐ NO	
Is ground water impacted?	☑ YES	☐ NO	☐ Not sampled, drilled out of contamination
Were vapors detected in any utilities?	☐ YES	☑ NO	
Were vapors detected in any on-site subsurface structures?	☐ YES	☑ NO	
Is surface water impacted?	☑ YES	☐ NO	*Unnamed tributary to Jarvis Creek*
Has a sensitive habitat/resource been impacted?	☑ YES	☐ NO	*Unnamed tributary to Jarvis Creek*

ADDITIONAL NOTES

Recommended attachments: None.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 3b
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

GPS LOCATIONS

GPS Manufacturer & Model: Trimble XT GPS with external antenna and Trimble GeoBeacon receiver.

Reference Datum: ☐ WGS 84 ☑ NAD 83 ☐ Unknown or Other:

WAAS Status: ☐ Enabled ☐ Disabled ☑ N/A or Unknown

Source Area Locations:

Take readings as near as possible to the point of highest contamination in each identified source area.

Latitude	Longitude	Accuracy (ft) (m)	Point Description
40.31274000	95.72122000		#3-8" and #5-12" Release Point

General Facility Locations:

Preferred locations are the intersection of the facility driveway and closest public street and/or the facility office entrance.

Latitude	Longitude	Accuracy (ft) (m)	Point Description

Coordinate Converters

These are provided for your convenience. Enter only readings in decimal degrees in the tables above.

Degrees	*Minutes*	*Seconds*	*Decimal Degrees*

Degrees	*Decimal Minutes*	*Decimal Degrees*

ADDITIONAL NOTES

Recommended attachments: Show GPS reading locations on Site Map.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 3b
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

GPS LOCATIONS

GPS Manufacturer & Model:

Reference Datum: ☐ WGS 84 ☐ NAD 83 ☐ Unknown or Other:

WAAS Status: ☐ Enabled ☐ Disabled ☐ N/A or Unknown

Monitoring Well Locations (Optional):

The use of GPS units with sub-meter accuracy is recommended for determining monitoring well locations.

Latitude	Longitude	Accuracy	(ft)	(m)	Point Description

Coordinate Converters

These are provided for your convenience. Enter only readings in decimal degrees in the tables above.

Degrees	*Minutes*	*Seconds*	*Decimal Degrees*

Degrees	*Decimal Minutes*	*Decimal Degrees*

ADDITIONAL NOTES

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 4
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

LAND USE

☐ Currently operating as a service station or petroleum bulk facility. If not, site currently used as: **Agricultural**

☐ Tanks temporarily out of service ☐ Tanks permanently out of service

Current On-site Land Use	
Residential	☐
Commercial	☐

Future On-site Land Use	
Residential	☐
Commercial	☐

Comments: *Justify the choice for future land use.*

Future land use is assumed to remain agricultural.

Off-site Land Use (within 500 feet - at a minimum, state whether residential, agricultural, commercial, or sensitive population center)

North: *agricultural*

Northeast: *agricultural*

Northwest: *agricultural*

South: *agricultural*

Southeast: *agricultural*

Southwest: *agricultural*

West: *agricultural*

East: *agricultural*

ADDITIONAL POINT OF EXPOSURE SURVEY

	Distance (feet)	Direction
Nearest residential site (≤500 ft):	*N/A*	*N/A*
Nearest commercial site (≤500 ft):	*N/A*	*N/A*
Nearest habitable building (≤500 ft):	*N/A*	*N/A*
Nearest ecologically sensitive area, e.g., wetland (≤1000 ft):	*1,000*	*South*
Nearest school, hospital, day care, retirement home, etc. (≤500 ft):	*N/A*	*N/A*

ADDITIONAL NOTES

Recommended attachments: Site map with detailed land use in the vicinity of the site, Area map.

NDEQ RBCA TIER 1 REPORT		Tier 1 Investigation Form 5a
FACILITY NAME: Magellan Pipeline MP 110	NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
CONSULTANT: Burns & McDonnell	COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

GROUND WATER AND SURFACE WATER USE

Ground Water - Current Use

Well Designation	Well Type/Use	Distance (ft)	Direction
Hutton House Well	Domestic	2,300	south

Surface Water - Current Use

Surface Water Type	Beneficial Use	Distance (ft)	Direction
Unnamed tributary	Aquatic life	1,600	South

Ground Water & Surface Water - Future Use

Are the RP, current property owner (if different than RP), adjacent landowners, and/or local municipal authorities aware of potential future ground and/or surface water use development within the next five years?

Ground Water		*Surface Water*	
☐ Yes	☑ No	☐ Yes	☑ No

If yes, provide the following information. Include contact information in Notes below and/or Form 5b.

Location	Type of New Use

NOTES: 1) Justify choice of future ground water use; also indicate if water supply well may have some influence over vertical migration of plume.
2) Justify choice for future surface water use and type of water body.

Recommended attachments: Area map with well and surface water locations.

NDEQ RBCA TIER 1 REPORT		Tier 1 Investigation Form - 5b
FACILITY NAME: Magellan Pipeline MP 110	NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
CONSULTANT: Burns & McDonnell	COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

WATER SUPPLY WELL LOCATION INFORMATION

List all wells located within the distances for the categories requested.

Well Designation	Physical Location/Address	Well Owner	Well Owner Mailing Address
Hutton House Well	*64548 723 Rd. Nemaha, NE 68414*	*Tony Hutton*	

Municipal Water/Utilities Superintendent: _____ Telephone Number: _____

Third Party Contact for Future Ground Water Use: _____ Telephone Number: _____

NOTES:

Provide location information of all water supply wells documented in Report Form 5a on area map.

Well location may be street property address or legal description.

Use well designation as map label. Include well locations on site map.

Recommended Attachment(s): Well logs and installation information.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 6
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

ENCLOSED SPACES

☐ *NO ENCLOSED SPACES ASSOCIATED WITH RELEASE LOCATION*

ON-SITE SUBSURFACE UTILITIES

Indicate which of the following utilities currently act as conduits or are potentially liable to become conduits under the columns entitled "Impacted by release," and "Potentially Impacted by Release," respectively.

	Depth [feet]	Construction material	Fill Material	Flow direction	Impacted by release	Potentially impacted by release
☐ Sanitary sewer						
☐ Covered storm sewer						
☐ Water line						
☐ Gas line						
☐ Electric line						
☐ Telephone line						
Other:						
☑ *#3-8"*	*3'*	*Steel*	*Clay*	*North*	*Source*	
☑ *#5-12"*	*3'*	*Steel*	*Clay*	*North*	*Source*	

ON-SITE & ADJACENT PROPERTY (within 200 ft) BUILDINGS

Building Location	Direction *(Cross, Down, Upgradient)*	Distance from source area(s)	Use	Basement or other subgrade present? (e.g. crawl space, daylight room) Type of structure	Depth (ft bgl)
N/A					

VAPOR ASSESSMENT

Subsurface Structure Screened	Location	PID/FID (ppm)	CGI (%LEL)
N/A			

Recommended attachments: Site map with locations of utilities, tanks and ancillary equipment, and vapor sampling locations.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 7
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

INSTRUCTIONS FOR INVESTIGATION NARRATIVE

Note: The reporter may use a format of their choosing for the following narrative information, with the provision that all the minimum information requirements listed below are provided under the following headings and in the order outlined. Place the narrative behind a copy of this Investigation Form in the Tier 1 Report.

I. Brief history of any abatement/remedial actions taken prior to initiating the Tier 1 investigation
II. Summary of site characteristics
    A. Site Location
    B. General site topography, geology, and hydrogeology
III. Summary of drilling activities
    A. Date/method/equipment
    B. Drilling order of boreholes
    C. Drilling complications (e.g., auger failure or refusal, site recently modified), if any
    D. Description of materials drilled through and evidence of contamination
    E. Monitoring well installation
        - depth of wells
        - filter pack and grout materials
        - screened interval
        - type of well head protection
        - well development methodology, duration, estimated water removed
        - other information
    F. Monitoring well location information
        - nature and location of permanent benchmark to which wells are referenced (designate on site map)
        - method (e.g., stadia, measuring wheel, tape) and measurements (in tabular format) used to reference wells to benchmark
    G. Other information related to drilling activities (e.g., start/stop times for drilling & well installation)
IV. Direct push technologies
    A. Date/method/equipment
    B. Order of probe locations
    C. Description of materials drilled through and evidence of contamination
    D. Other information related to direct push activities (e.g., start/stop times, media investigated)
V. Summary of sampling activities
    A. Soil sampling
        - method of sample collection
        - method/protocol used for head space analysis
        - method/protocol used for laboratory sample preparation
    B. Ground water sampling
        - purging method/protocol/criteria (includes rationale for not purging, if applicable)
        - sample collection method/protocol
        - order of well sampling (Note: sample least contaminated to most contaminated)
    C. Drinking water supply well/system sampling
        - location of sampling point (e.g., directly from well, outdoor tap, indoor tap)
        - purging method/protocol/criteria
        - sample collection method/protocol
    D. QA/QC considerations
        - steps taken to limit cross-contamination between sampling locations
        - number/type/location of duplicates/blanks
        - decontamination protocol and other measures taken to minimize cross-contamination
VI. Other information
    A. Rationale for variances from approved work plan or RBCA guidance document
    B. Contact information (i.e., names, phone numbers, affiliations) for people providing information gathered during investigation

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 8
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

SITE STRATIGRAPHY AND HYDROGEOLOGY

STRATIGRAPHY OF THE SITE

Depth [feet]	Unified Soil Classification	Type of Soil
0-2	*CL*	*Clay with some silt, black*
2-8	*CL*	*Clay with some silt, grayish brown*
8-14.5	*CH*	*Clay, yellowish brown*
14.5-19.5	*CL*	*Clay, reddish brown*
Predominant soil type:		

Depth [feet]	Type of Bedrock & Geological Formation (where applicable) (discuss rock properties and features, e.g., fractures)
19.5-23.5	*Shale, weathered, olive gray, very weak*
23.5	*Refusal*

HYDROGEOLOGY OF THE SATURATED IMPACTED ZONE

Range of ground water fluctuation, (if known):	*N/A*	ft	Source:	
Average depth to water table/static water level:	*14*	ft		
Flow direction:	*S/SE*			
Hydraulic gradient (i):	*0.024*	ft/ft	MWs used:	B-10 and B-6
Hydraulic conductivity (K):	*1.3*	ft/day	for:	Clays, silty
Porosity (n) [0.30 for sands, 0.35 for silts/clays]	*0.35*			
Seepage velocity (K x i/n) [calculated]:	**0.09**	ft/day	**992.8**	cm/year

ADDITIONAL NOTES

Site stratigraphy based on Borehole B-20, located just south of the point of release.

Recommended attachments: Relevant cross-sections and soil boring logs.

NDEQ RBCA TIER 1 REPORT		Tier 1 Investigation Form - 9
FACILITY NAME: Magellan Pipeline MP 110	NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
CONSULTANT: Burns & McDonnell	COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

ANALYTICAL DATA SUMMARY FOR SURFACE SOIL (Soil sample depth between 0-3 feet bgl; All concentrations in mg/kg)

☐ NOT APPLICABLE FOR THIS SITE

Sample No.						Arithmetic Average	Maximum	Ratio (Max. / Avg) *
Sampling Date								
Sample Depth (ft)								
VOLATILE ORGANIC CHEMICALS ANALYSES								
Benzene								
Toluene								
Ethylbenzene			*See Table 2 Attached*	*to Investigation Narrat*	*ive*			
Xylenes (total)								
n-Hexane								
Methyl-tert-butyl-ether (MTBE)								
TOTAL EXTRACTABLE HYDROCARBONS ANALYSES								
TEH (as diesel)								
TEH (as waste oil)								
TEH (as kerosene)								
TEH as								
TEH as								
TEH as								
OTHER ANALYTES								

NOTE:

Provide any laboratory analytical data sheets not previously submitted to the Department.

Non-detects can be expressed as ND, BDL, etc.

*** : If the ratio is high (for example >10) there may be a "hot spot" and additional investigation/evaluation may be warranted. In such circumstances, contact the Department.**

Recommended Attachments: Site map showing location(s) of surface soil sample(s), chemical concentration maps, laboratory analysis reports, and chain of custody.

NDEQ RBCA TIER 1 REPORT		Tier 1 Investigation Form - 10
FACILITY NAME: Magellan Pipeline MP 110	NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
CONSULTANT: Burns & McDonnell	COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

ANALYTICAL DATA SUMMARY FOR SUBSURFACE SOIL (Soil sample depth greater than 3 ft bgl; All concentrations in mg/kg.)

MW / SB No.													Arithmetic Average	Maximum	Ratio (Max. / Avg) *
Sampling Date															
Sample Depth (ft)															
VOLATILE ORGANIC CHEMICALS ANALYSES															
Benzene															
Toluene			*See Table 2 attached to Investigation Narrative*												
Ethylbenzene															
Xylenes (total)															
n-Hexane															
Methyl-tert-butyl-ether (MTBE)															
TOTAL EXTRACTABLE HYDROCARBONS ANALYSES															
TEH (as diesel)															
TEH (as waste oil)															
TEH (as kerosene)															
TEH as															
TEH as															
TEH as															
OTHER ANALYTES															
See Table 2 attached to															
Investigation Narrative															

NOTE:

Provide any laboratory analytical data sheets not previously submitted to the Department. Add additional sheets as needed.

Non-detects can be expressed as ND, BDL, etc.

*** : If the ratio is high (for example >10) there may be a "hot spot" and additional investigation/evaluation may be warranted. In such circumstances, contact the Department.**

Recommended Attachments: Site map showing location(s) of subsurface soil sample(s), chemical concentration maps, laboratory analysis report(s), chain of custody, and boring logs.

NDEQ RBCA TIER 1 REPORT		Tier 1 Investigation Form - 11a
FACILITY NAME: Magellan Pipeline MP 110	NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
CONSULTANT: Burns & McDonnell	COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

ANALYTICAL DATA SUMMARY FOR GROUND WATER (All concentrations in mg/L)

☐ NOT APPLICABLE FOR THIS SITE

Monitoring Well Number								Arithmetic Average	Maximum	Ratio (Max. / Avg) *
Installation Date										
Screen Interval (feet below datum)										
Water Level (feet below datum)										
Last Sampling Event										
VOLATILE ORGANIC CHEMICALS ANALYSES										
Benzene										
Toluene			*See Table 3 attached to Investigation Narrative*							
Ethylbenzene										
Xylenes (total)										
n-Hexane										
Methyl-tert-butyl-ether (MTBE)										
TOTAL EXTRACTABLE HYDROCARBON ANALYSIS										
TEH (as diesel)										
TEH (as waste oil)										
TEH (as kerosene)										
TEH as										
TEH as										
TEH as										
OTHER ANALYTES										

NOTE: Provide any laboratory analytical data sheets not previously submitted to the Department. Add additional sheets as needed.

*** : If the ratio is high (for example >10) there may be a "hot spot" and additional investigation/evaluation may be warranted. In such circumstances, contact the Department.**

Recommended Attachment: Site map showing location(s) of monitoring well(s), chemical concentration maps, laboratory analysis report(s), chain of custody, boring logs, and monitoring well schematics.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 11b
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

ANALYTICAL DATA SUMMARY FOR QA/QC WATER SAMPLES (All concentrations in mg/L)

☐ NOT APPLICABLE FOR THIS SITE

Type of QA/QC Water Sample	Blind Duplicates		Field Blanks		Trip Blanks	
Sample Designation						
Sample Date						
Field Blank Exposure Time (min)						
VOLATILE ORGANIC CHEMICALS ANALYSES						
Benzene						
Toluene		*See Table 3 attached to Investigation Narrative*				
Ethylbenzene						
Xylenes (total)						
n-Hexane						
Methyl-tert-butyl-ether (MTBE)						
TOTAL EXTRACTABLE HYDROCARBON ANALYSIS						
TEH (as diesel)						
TEH (as waste oil)						
TEH (as kerosene)						
TEH as						
TEH as						
TEH as						
OTHER ANALYTES						

TEMPERATURE BLANKS	Cooler ID	Pre-Delivery Temp. (°C)	Laboratory Temp (°C)	Cooler ID	Pre-Delivery Temp. (°C)	Laboratory Temp (°C)

NOTE: Provide any laboratory analytical data sheets not previously submitted to the Department.
Recommended Attachment: Laboratory analysis report(s) and chain of custody.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 12
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

FREE PRODUCT

Is free product present at the site? ☑ YES ☐ NO

(Note if NO, proceed to the next report form)

Has free product been found in any utility? ☐ YES ☑ NO

Has the free product plume been delineated? ☑ YES ☐ NO

Shallowest depth to free product: *7.9 ft*

Type of free product released: *Gasoline, Diesel #2, Jet Fuel JP8*

Number of monitoring wells currently at the site: *51 temporary piezometers and recovery sumps*

List the monitoring wells containing free product: *Sump # 1, 2, 3, 4, 16, 18, 19, 20, 21 , and 25*
Piezometers B-23 and B-3

Specify the well ID and maximum free product thickness:

B-23 *0.73* feet Date: *1/31/12*

VAPOR ASSESSMENT

Place vapor assessment information in Tier 1 Investigation Form - 6.

REMEDIATION

Has free product removal been initiated? ☑ YES ☐ NO

If YES, specify method of removal (bailer, pump, etc.)? *Vacuum Truck, Adsorbent Boom, Peat*

Frequency of removal (continuously, weekly, etc.): *Daily*

Total number of recovery events to date: *Multiple- daily since release*

Total amount of purge-water recovered: *8,619 barrels of water*

Total amount of free product recovered: *80 bbls: vac truck, 63 bbls: ads. boom, 42 bbls: peat*

Date of latest free product report submittal: *N/A*

ADDITIONAL NOTES

List of wells containing product as measured on 2/16/12.
Total amount of free product recovered as of 2/24/12

Recommended attachments: Free product thickness maps as appropriate. Place narrative detailing free product effort in Form - 7.

NDEQ RBCA TIER 1 REPORT	Tier 1 Investigation Form - 13
FACILITY NAME: Magellan Pipeline MP 110	CONSULTANT: Burns & McDonnell
NDEQ SPILL NO.: 998963	NDEQ IIS NO.: RA 121011-SM-1229
COMPLETION DATE: 16-Mar-12	PREPARED BY: Burns & McDonnell

REFERENCES AND PROTOCOLS

TIER 1 FORMS - PRINT

- ☐ COVER PAGE
- ☐ TABLE OF CONTENTS
- ☐ 1 EXECUTIVE SUMMARY
- ☐ 2 FACILITY / CONSULTANT / LICENSES
- ☐ 3 RELEASE CHARACTERIZATION /
- ☐ 4 LAND USE
- ☐ 5 GROUND WATER USE
- ☐ 6 ENCLOSED SPACES
- ☐ 7 INSTRUCTIONS FOR INVESTIGATION
- ☐ 8 SITE STRATIGRAPHY AND
- ☐ 9 ANALYTICAL DATA SUMMARY FOR
- ☐ 10 ANALYTICAL DATA SUMMARY FOR
- ☐ 11 ANALYTICAL DATA SUMMARY FOR
- ☐ 12 FREE PRODUCT
- ☐ 13 REFERENCES AND PROTOCOLS

Investigation Narrative and Attachments

Tier 1 Investigation Narrative, Magellan MP 110 Release, CR 724, Nemaha County, Nebraska; NDEQID: 998963

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell), on behalf of Magellan Pipeline Company, L.P. (Magellan), submits the following Tier 1 investigation narrative summarizing the field activities conducted from December 10, 2011 through February 16, 2012 at the Magellan MP 110 Release Site, Nemaha County, Nebraska.

I. RELEASE RESPONSE SUMMARY

On December 10, 2011 a release of refined petroleum products occurred when a dozer operated by the landowner's tenant struck the Mile Post 110 #5-12" and #3-8" pipelines owned and operated by Magellan. The Magellan Release Report is included as Attachment 1.

Magellan initially reported an estimated total of 6,000 barrels (bbls) of product released. The release total was subsequently revised to 2,834 bbls following volume and pressure loss calculations. The revised total volumes released are as follows:

- #5-12 pipeline: 1,529 bbls of gasoline and 655 bbls of jet fuel (JP8)
- #3-8" pipeline: 650 bbls of diesel fuel

The release occurred in an agricultural field located approximately 3.2 miles southwest of Nemaha, Nebraska. A portion of the released free phase hydrocarbons (FPH) migrated overland, down a grass swale and impacted an unnamed tributary of Jarvis Creek. Jarvis Creek empties into the Little Nemaha River which empties into the Missouri River approximately 1.5 miles south of Nemaha, Nebraska. A topographic map is included as Figure 1 and a site map is included as Figure 2.

Magellan and contracted personnel immediately responded to the release. Responders discerned that the unnamed tributary had been impacted by the release and began placing containment booms on the surface water at strategic locations. On the day of the release, crews constructed two underflow dams (UDs) on the unnamed tributary. The UD constructed further downstream (designated UD #4) contained the released FPH. Over the course of the response an additional 5 UDs were constructed (see Figure 3). The UDs served as containment structures on the surface water bodies and FPH collection points. FPH were recovered by response crews using vacuum trucks, absorbent booms, and peat. Recovery and monitoring operations were conducted on the creek daily and continue to date.

An interceptor trench was excavated across the southern end of the swale on December 20, 2011. The depth of the interceptor trench extended approximately 12 feet below ground surface (bgs) and fourteen 6-inch polyvinyl chloride (PVC) recovery sumps with the lower 10 feet consisting of 0.01-inch (10 slot) machine-slotted screen were installed in the trench. Pea gravel was used to backfill around the screened interval for the sumps from approximately 2 to 12 feet bgs. An approximate 2 feet clay cap was placed on the pea gravel to match existing grade. Pea gravel

was then added on top of the clay to provide better footing for response personnel. The locations of the interceptor trenches and sump locations are illustrated on Figure 4.

On January 6, 2012 a second interceptor trench was excavated following the discovery of FPH entering the unnamed tributary upstream of Sump 1. The interceptor trench was excavated from approximately 12 to 17 feet bgs (deeper trending west) and eleven 6-inch PVC recovery sumps with the lower 10 feet consisting of 0.01-inch (10 slot) machine-slotted screen were installed in the trench. Pea gravel was added in the trench to approximately 2 feet bgs and the remaining portion was backfilled with clay. Pea gravel was then added on top of the clay. Fluids have been recovered from the sumps in the interceptor trenches on a daily basis since installation and continue to date.

Impacted soils encountered during the excavations for the interceptor trenches were placed on plastic sheeting inside a bermed area east of the grass swale and north of the interceptor trench. The stockpiled impacted soil will be managed in the future as part of the determined remedial approach.

Recovered fluids are temporarily stored in frac tanks at the Site. The fluids are then transported to the Magellan Reclamation Facility in Kansas City, Kansas for processing. As of February 24, 2012 approximately 185 of the 2,834 bbls of FPH have been recovered from the sumps and the unnamed tributary via vacuum trucks, absorbent booms, and peat. This does not include FPH volumes recovered via soil excavation or evaporation.

The used peat and absorbent booms are drained of fluids and placed in a lined roll-off container at the Site. On March 16, 2012 Burns & McDonnell personnel collected a sample of the material for disposal characterization. Based on the laboratory analytical data and pending proper regulatory/accepting facility approval, the materials will be disposed of accordingly.

A total of 31 direct-push borings were completed to determine the approximate vertical and horizontal extents of impacts to soil and groundwater at the Site. In addition, temporary piezometers were installed in the majority of the borings to determine the approximate groundwater flow direction and facilitate groundwater sampling.

II. SUMMARY OF SITE CHARACTERISTICS

The general legal description of the release area is the northwest ¼ of the northeast ¼ of the southwest ¼ of Section 15, Township 4 North, Range 15 East, Nemaha Quadrangle, Nebraska. The release impacted a field used for row-crop production (corn in 2011) that slopes to the southwest with a series of terraces. Field observations indicated the released FPH flowed overland along the first terrace and around its northern flank. FPH also flowed through an erosional breach in the terrace further south. A portion of the FPH ultimately impacted a grass swale at the base of the hill before entering the unnamed tributary.

Site stratigraphy near the release point includes up to twenty feet of clays with varying amounts of silts and varying in color and plasticity. Consolidated deposits encountered at the Site consist mainly of weathered shale of olive gray color with lesser amounts of limestone which was only observed in Borings B-15 and 16. The direction of groundwater flow near the release point is

towards the southwest, emulating topography. Groundwater flow direction trends more straight south nearing the unnamed tributary. Approximate groundwater flow direction is illustrated on Figure 5 and groundwater elevation data in the temporary piezometers is summarized on Table 1.

III. SUMMARY OF DIRECT-PUSH ACTIVITIES

Burns & McDonnell and Razek Environmental, LLC (Razek) of Louisburg, Kansas, personnel performed direct-push soil sampling on December 12, 2011 utilizing a Geoprobe® 6620 direct-push track unit. Two locations (B-1 and B-2) were completed on December 12, 2011. Direct-push activities resumed the following day and a total of five locations (B-4, B-5, B-7, B-9, and B-12) were completed.

Burns & McDonnell and Razek personnel performed additional direct-push activities from January 11 through 13, 2012. Within this time, a total of 24 borings (B-3, B-6, B-8, B-10, B-11, B-13, B-14, and B-15 through B-31) were completed.

Direct-push borings were completed to depths ranging from 5 to 50 feet below ground surface (bgs). Temporary piezometers were installed in a total of 23 borings to facilitate groundwater sample collection and determine approximate groundwater flow direction. Temporary piezometers were installed in each boring completed in January 2012 with the exception of Boring B-22. The temporary piezometers were constructed with well casing comprised of 1-inch diameter PVC, with the lower 10 feet consisting of 0.010-inch (10 slot) machine-slotted screen.

On January 31, 2012 Anderson Survey Company of Lee's Summit, Missouri, personnel surveyed the top of casing and ground surface elevations for the temporary piezometers. The elevations were surveyed relative to mean sea level on NAVD88 GEOID03 based on an OPUS solution on site. Horizontal locations for the temporary piezometers and other Site features (i.e. UDs, sumps, pipelines, etc.) were surveyed by Burns & McDonnell personnel using a Trimble® XT GPS referencing NAD 83 datum.

Direct-push boring locations are illustrated on Figure 6 and boring logs are included as Attachment 2. Figures 7 and 8 present geologic cross-sections across the Site based on descriptions of the soil cores obtained using direct-push sampling techniques.

IV. DIRECT-PUSH TECHNOLOGIES

Soil sampling activities were conducted on December 12 and 13, 2011 and January 11 through 13, 2012. Soil cores were collected using a Geoprobe® 6620 direct-push unit with macro core samplers and acetate sleeves. The recovered soil cores were field-screened using a MiniRAE 2000 photoionization detector (PID) equipped with a 10.6 electron volt lamp. Soil samples were collected for laboratory analysis from the portion of soil core exhibiting the highest PID reading and from the initial portion of core below the impacted zone that the PID indicated was clean. If petroleum impacts were not observed in a soil core, one soil sample was collected from directly above the groundwater table. Recovered soils were described using the Unified Soil Classification System (see boring logs – Attachment 2).

V. SUMMARY OF SAMPLING ACTIVITIES

Soil Sampling

A description of the soil sample collection procedures is described above. Soil samples were submitted to Pace Analytical Services, Inc. (Pace) in Lenexa, Kansas, for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), n-Hexane, and total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) using United States Environmental Protection Agency (EPA) Method 8260/University of Iowa (Iowa) Method OA-1, and total extractable hydrocarbons (TEH) using Iowa Method OA-2. In addition, the soil samples collected in December 2011 were analyzed for methyl tert butyl ether (MTBE) using EPA Method 8260/Iowa Method OA-1. Laboratory analytical results of the soil samples are summarized on Table 2; benzene and TPH-GRO concentrations in the soil samples are illustrated on Figure 9; and laboratory analytical reports are included as Attachment 3.

Groundwater Sampling

Groundwater sampling activities were conducted on January 19, January 24, and February 8, 2012. Samples were collected from the piezometers containing an adequate volume of groundwater. Samples were not collected from piezometers containing FPH (B-3, B-8, and B-23). The groundwater samples were collected using an inertial lift pump and were submitted to Pace for laboratory analysis of BTEX, n-Hexane, TPH-GRO, and TEH. Benzene and TPH-GRO concentrations in the groundwater samples are illustrated on Figure 10; laboratory analytical results of the groundwater samples are summarized on Table 3; and laboratory analytical reports are included as Attachment 3.

Surface Water Sampling

Surface water sampling began on December 11, 2011, one day after the release. Surface water sampling continued on a daily basis at various locations through December 21, 2011. The sampling frequency was then adjusted to a weekly schedule at the locations summarized in the table below. The most recent round of surface water sampling occurred on February 16, 2011 and the current monitoring frequency is monthly.

Three 40-milliliter (mL) vials (HCl preserved) and one 1-liter glass container (unpreserved) were filled for each surface water sample. Surface water was collected from the creek bank in the 1-liter container for that particular sample and the water gently poured into the 40-mL vials. The 1-liter container was then filled to complete the sample collection. A disposable polyethylene bailer tied with new polypropylene rope was used to collect some of the samples when conditions warranted (i.e. ice in the creek). The water was gently poured from the top of the bailer into the sample containers. Surface water samples were submitted to Pace for laboratory analysis of BTEX, n-Hexane, TPH-GRO, and TEH. Surface water sample results are summarized on Table 4; surface water sample locations are illustrated on Figure 11; and laboratory analytical reports for the surface water samples are provided as Attachment 3.

Surface Water Sample ID	Location
SW-1	Outfall of Underflow Dam #2
SW-2	Outfall of Underflow Dam #4
Confluence	Jarvis Creek downstream of confluence with unnamed tributary
SW-3	Jarvis Creek by County Road 724
L. Nemaha Downstream	Little Nemaha River downstream of confluence with Jarvis Creek

Domestic Well Sampling

Groundwater samples were collected from the Tony Hutton domestic well located approximately 700 feet south and 900 feet west of the unnamed tributary. The initial sample was collected on December 11, 2011 and another sample was collected three days later. The sampling frequency was then changed to monthly and continues to date.

Sample containers were filled with groundwater directly from the outside spigot at the residence and submitted to Pace for laboratory analysis of BTEX, n-Hexane, TPH-GRO, and TEH. Laboratory analytical results for the domestic well samples are summarized in Table 4; the location of the Hutton well is illustrated on Figure 12; and laboratory analytical reports are included as Attachment 3.

A well search of the Nebraska Department of Natural Resources water well database was conducted. Based on the search, the Hutton well is the only well located within a 1-mile radius of the release (see Figure 13).

Quality Assurance (QA)/Quality Control (QC) Considerations

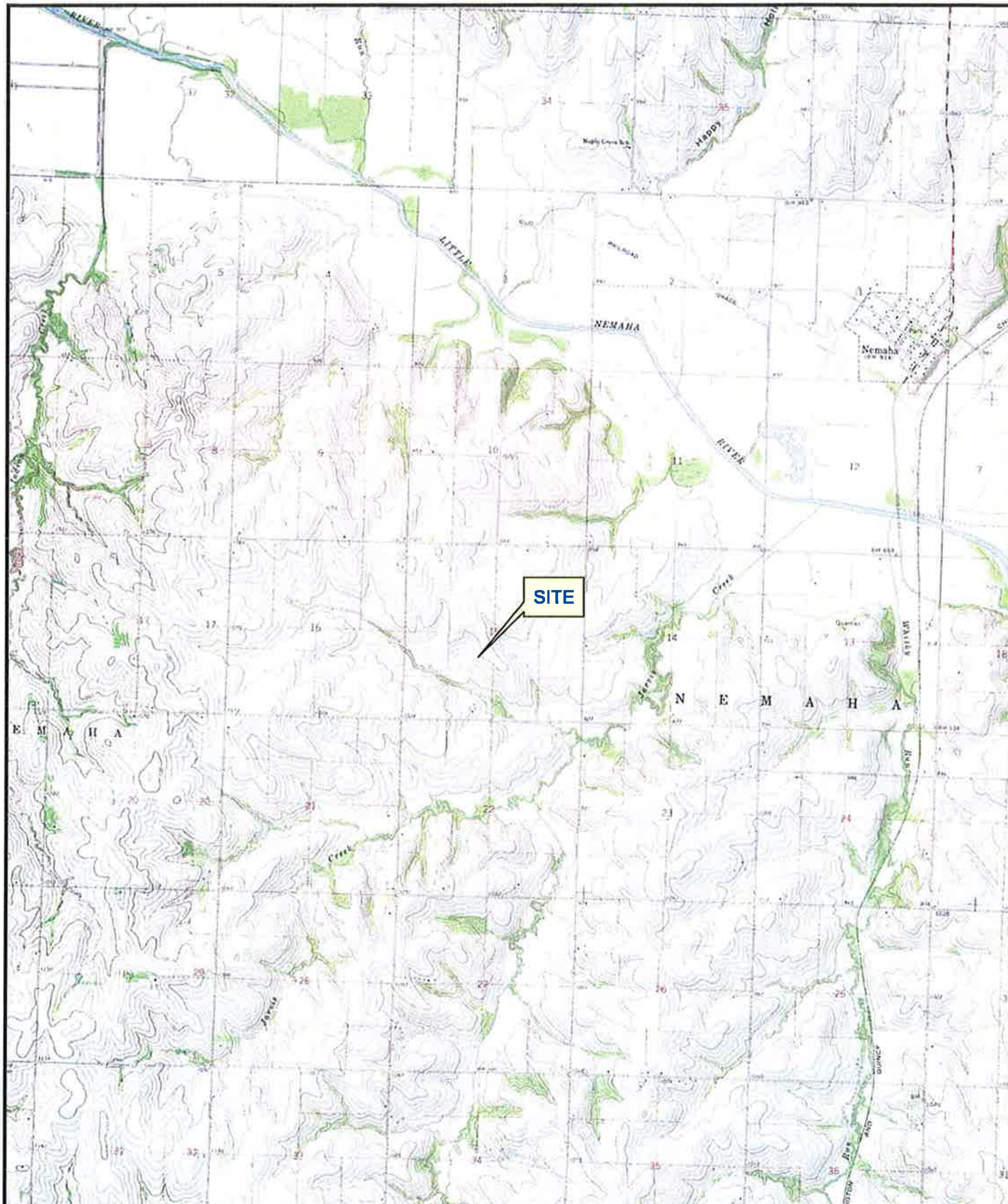
QA/QC considerations taken during sampling events included collecting duplicates samples and utilizing trip blanks. Field instruments used during sampling/monitoring activities were calibrated daily.

CONCLUSIONS AND CONTACT INFORMATION

This investigation narrative was prepared as outlined in Form 7 of the RBCA Tier 1 Site Investigation Report Form for Petroleum Release Sites document provided by NDEQ.

Please contact Lorraine Woxell at (918) 574-7467 or email lorraine.woxell@magellanlp.com with any comments or questions.

FIGURES



4,000 0 4,000

SCALE IN FEET

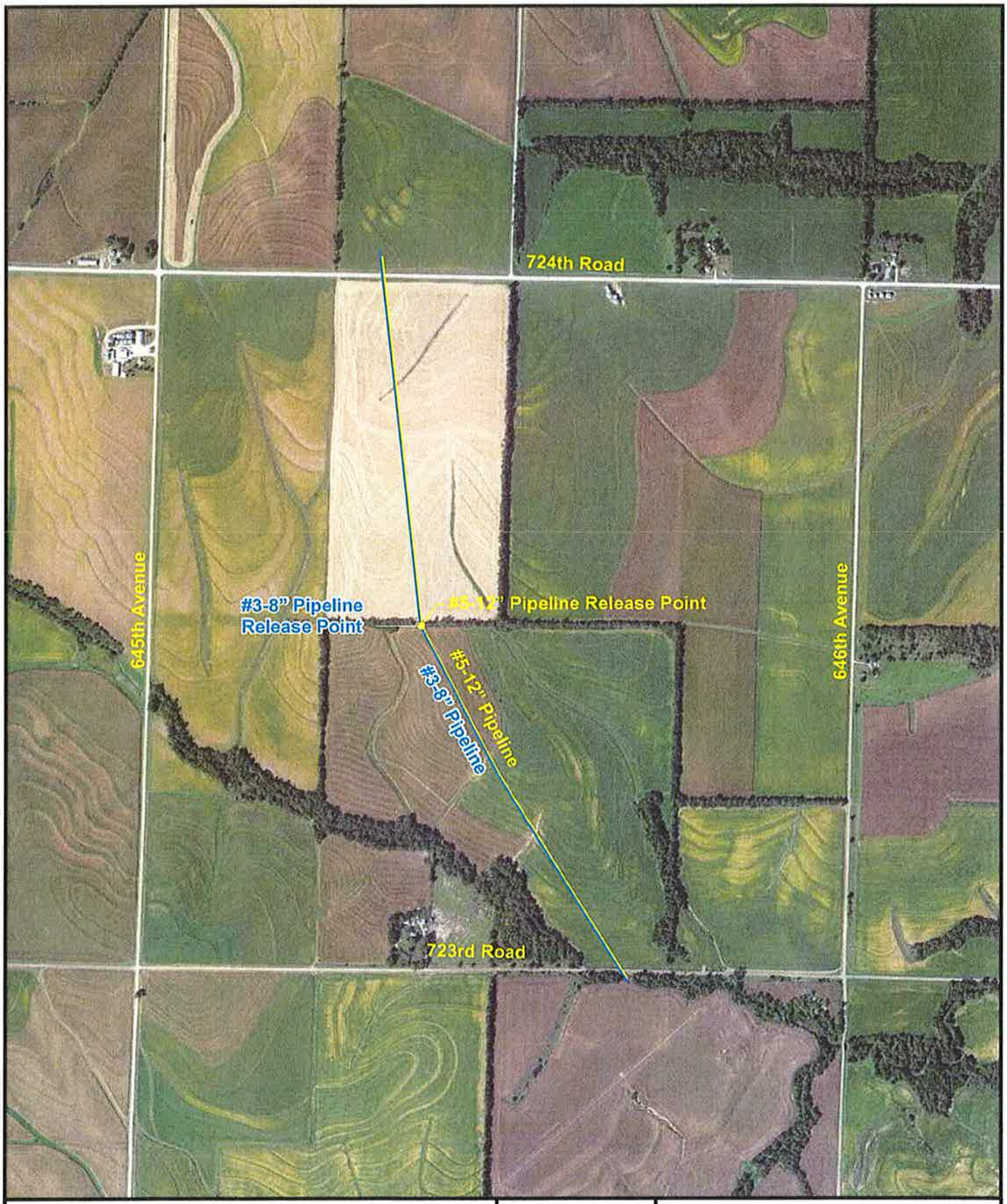
N

Burns & McDonnell
SINCE 1898

Figure 1

TOPOGRAPHIC MAP

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska



NOTE:

PIPELINE LOCATIONS DEPICT EXTENT SURVEYED IN THE FIELD.

1,000 0 1,000

SCALE IN FEET

N

Burns & McDonnell
SINCE 1898

Figure 2

SITE MAP

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig2_Site_Map_MP110.mxd sos Mar 14, 2012

LEGEND

Underflow Dam

450 0 450

SCALE IN FEET

N

Burns & McDonnell
SINCE 1898

Figure 3

Underflow Dams

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

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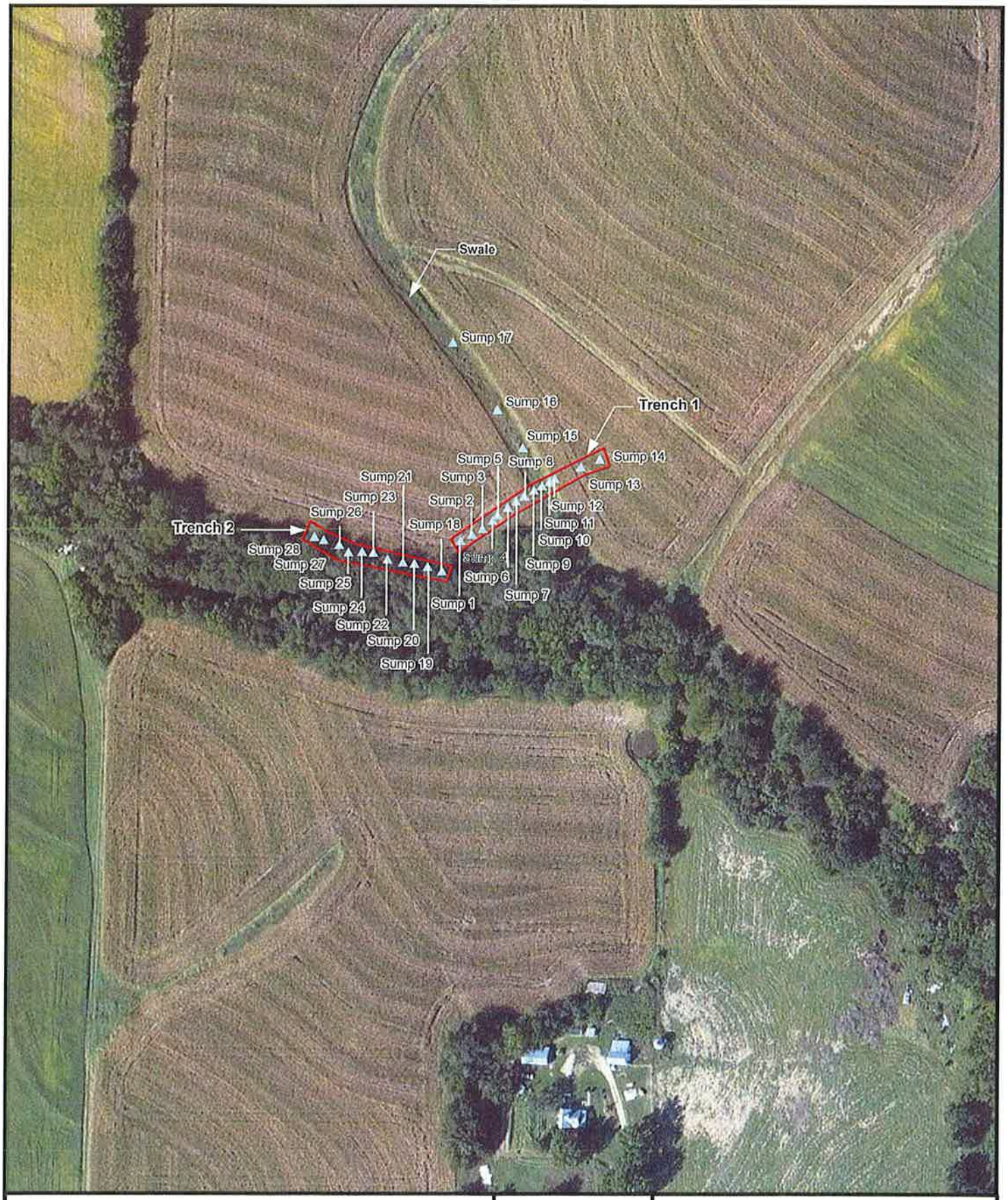


Legend

Recovery Sump Location

200 0 200

SCALE IN FEET

N

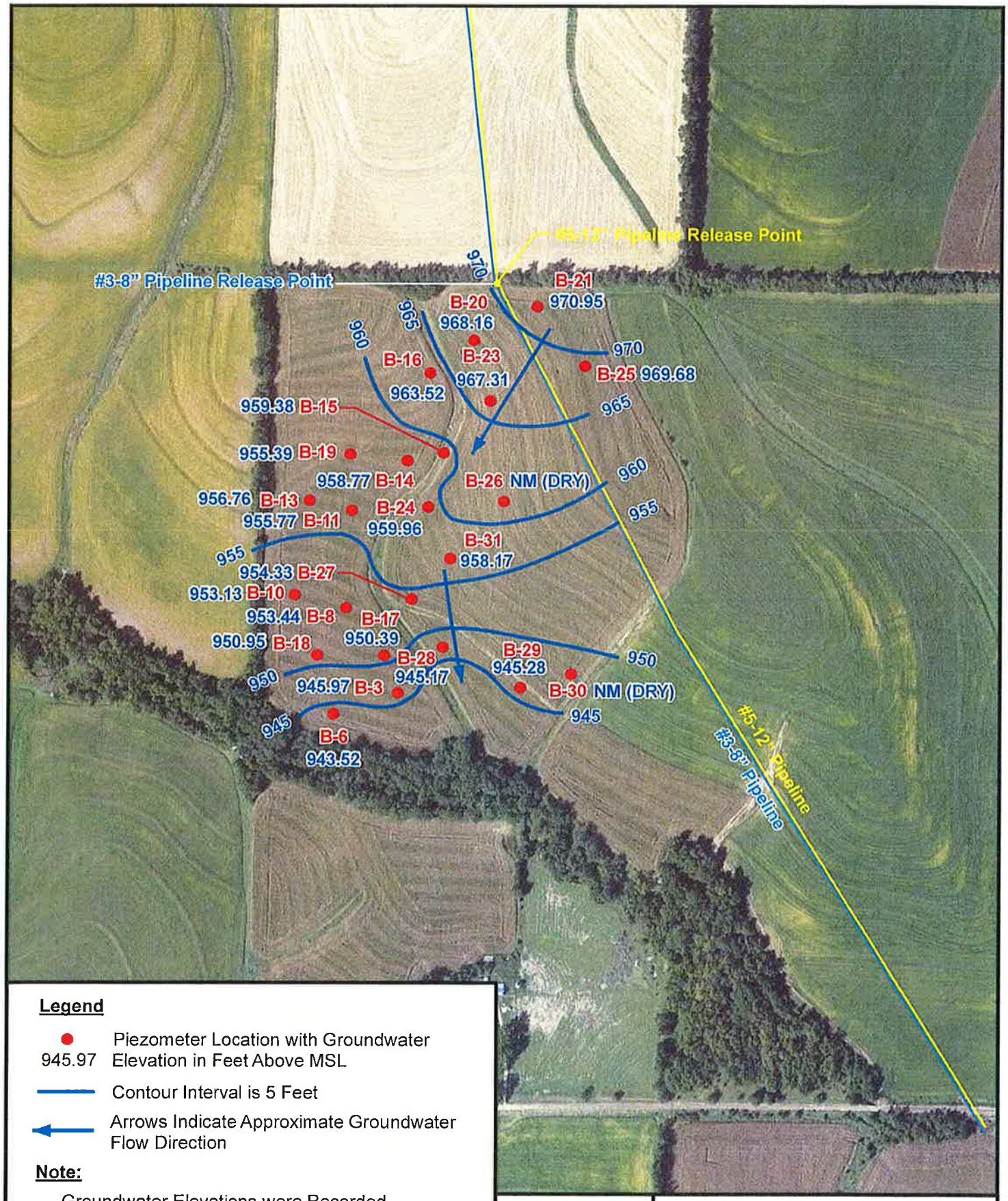
Burns & McDonnell
SINCE 1898

Figure 4

INTERCEPTOR TRENCH
SUMP LOCATIONS

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig4_Interceptor_Trench_MP110.mxd sos Mar 21, 2012



Legend

● Piezometer Location with Groundwater Elevation in Feet Above MSL (945.97)

Contour Interval is 5 Feet

Arrows Indicate Approximate Groundwater Flow Direction

Note:

Groundwater Elevations were Recorded on January 31, 2012.

400 0 400

SCALE IN FEET

N

Burns & McDonnell

Figure 5

GROUNDWATER ELEVATION MAP

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

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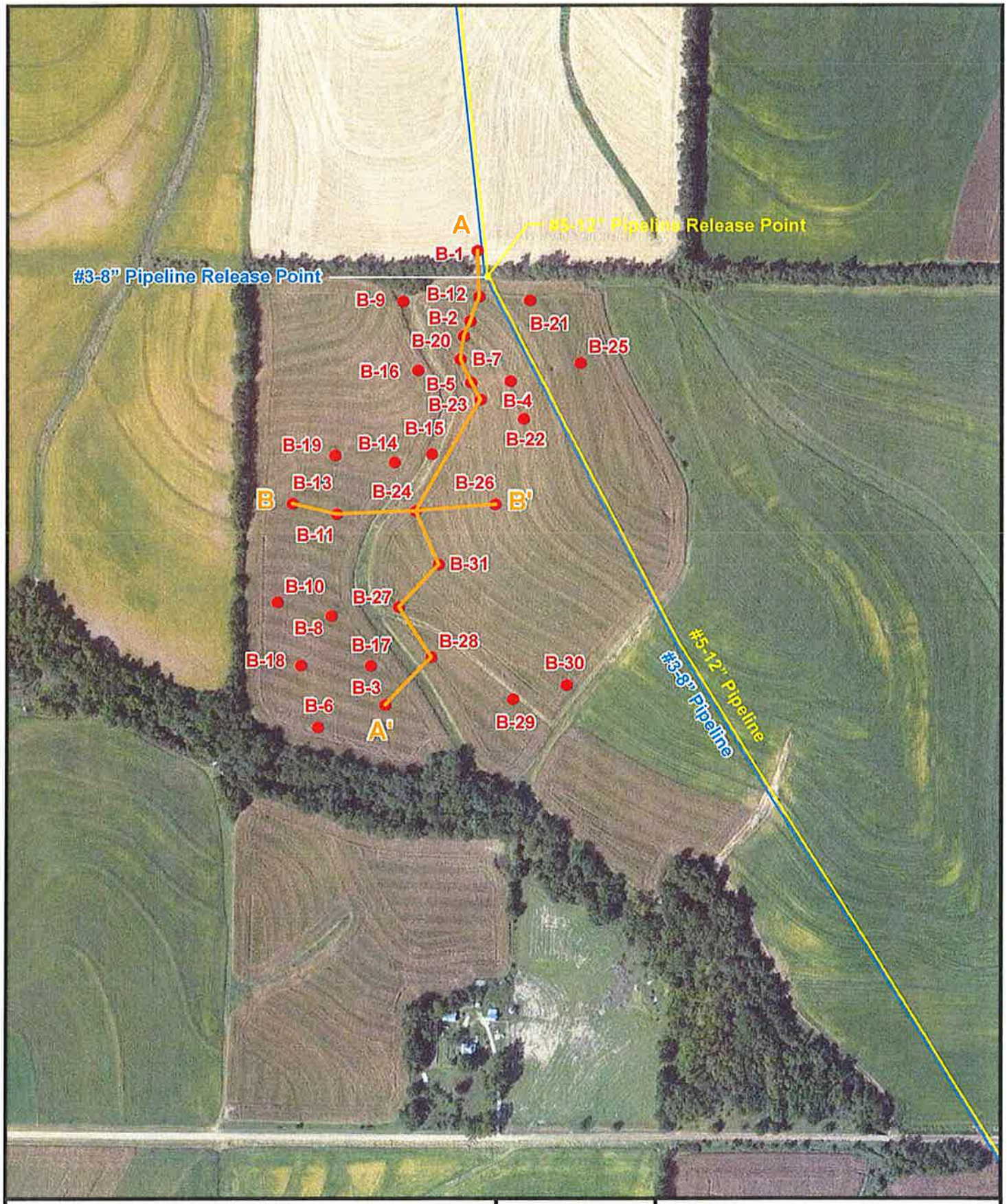


Legend

Direct-Push Boring Location

A —— A' Cross-Section Line

400 0 400

SCALE IN FEET

N

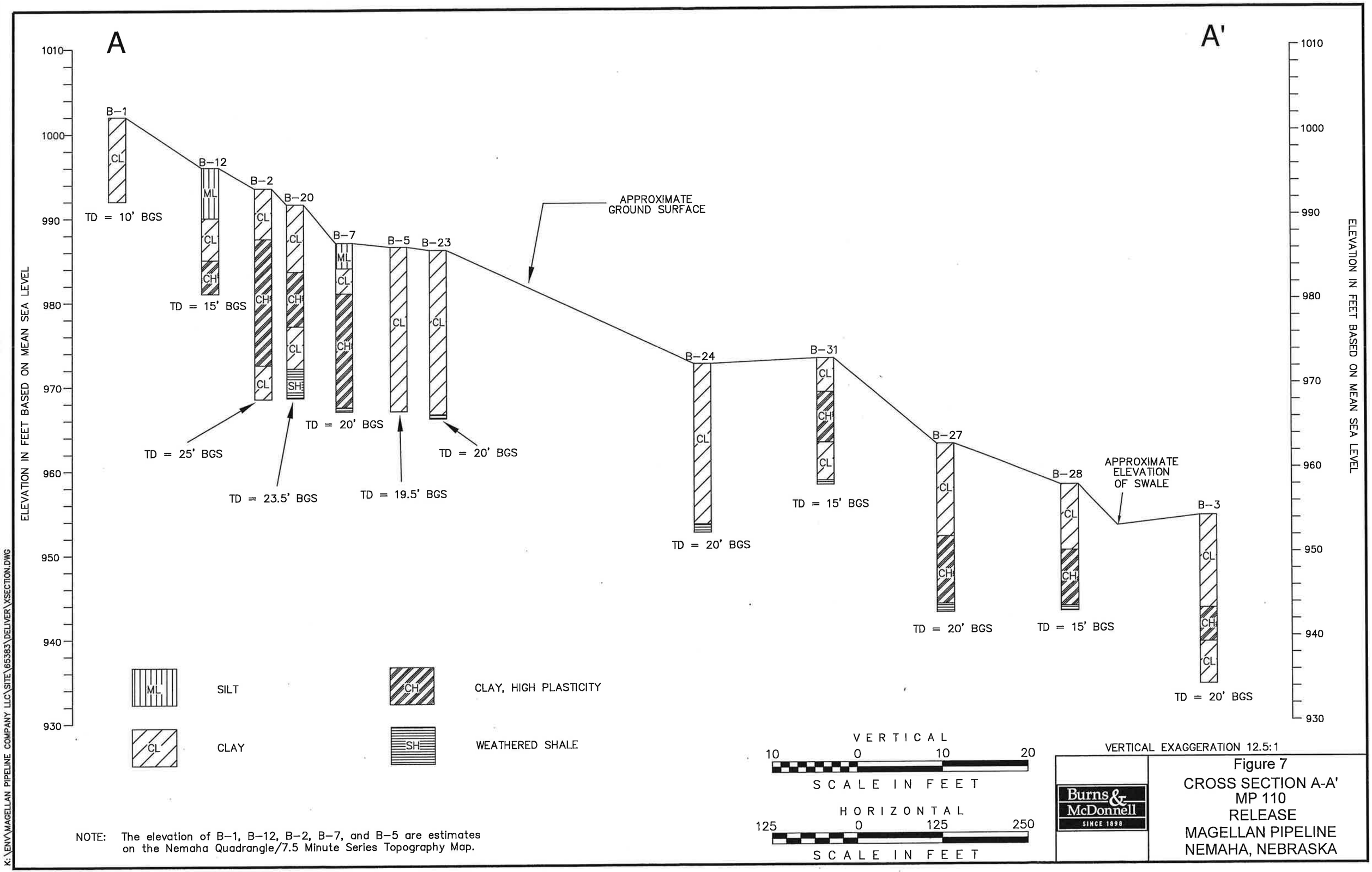
Burns & McDonnell SINCE 1898

Figure 6

DIRECT-PUSH BORING LOCATIONS

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig6_DP_Boring_MP110.mxd sos Mar 21, 2012



NOTE: The elevation of B-1, B-12, B-2, B-7, and B-5 are estimates on the Nemaha Quadrangle/7.5 Minute Series Topography Map.

Figure 7
CROSS SECTION A-A'
MP 110
RELEASE
MAGELLAN PIPELINE
NEMAHA, NEBRASKA

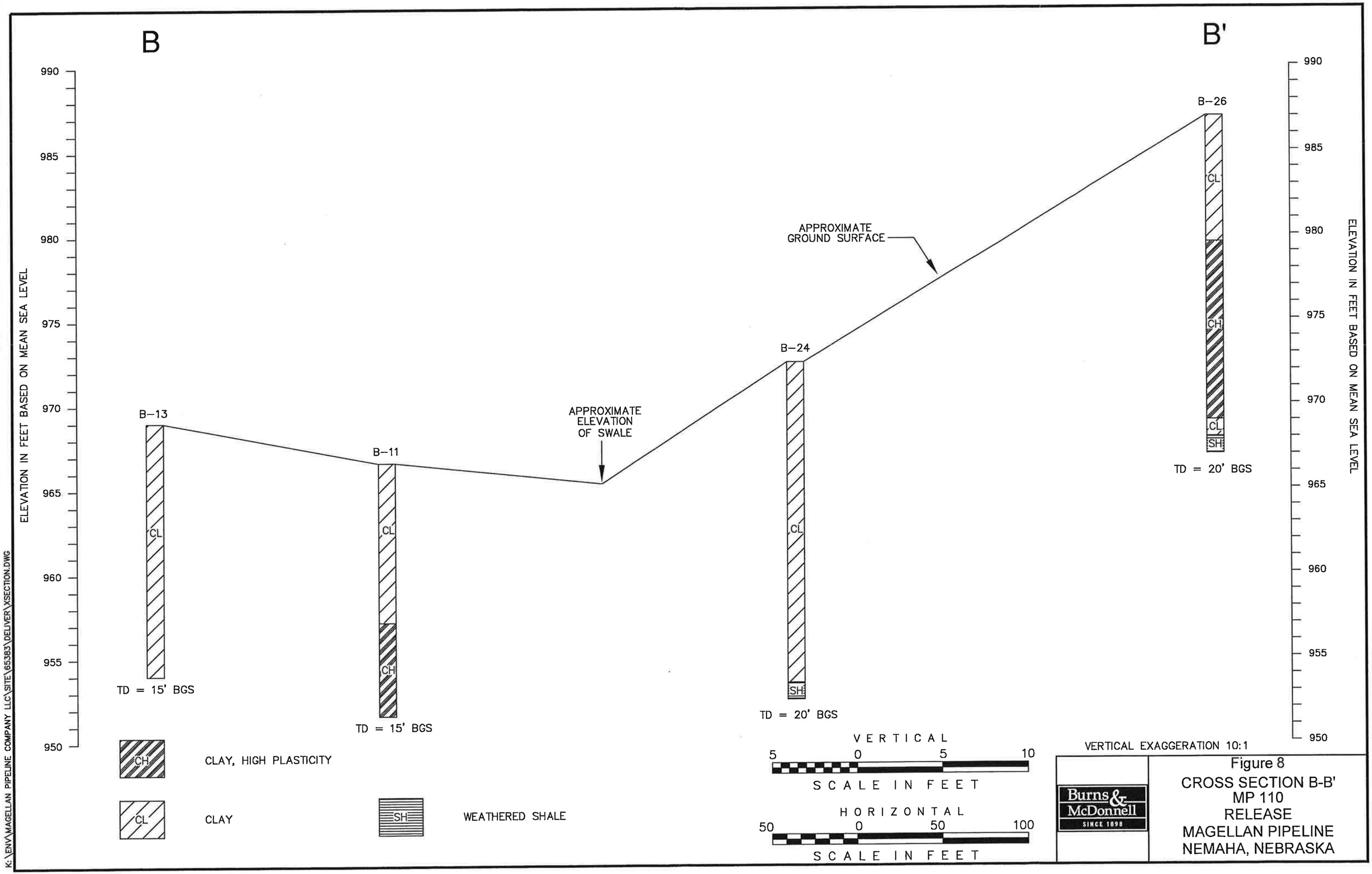
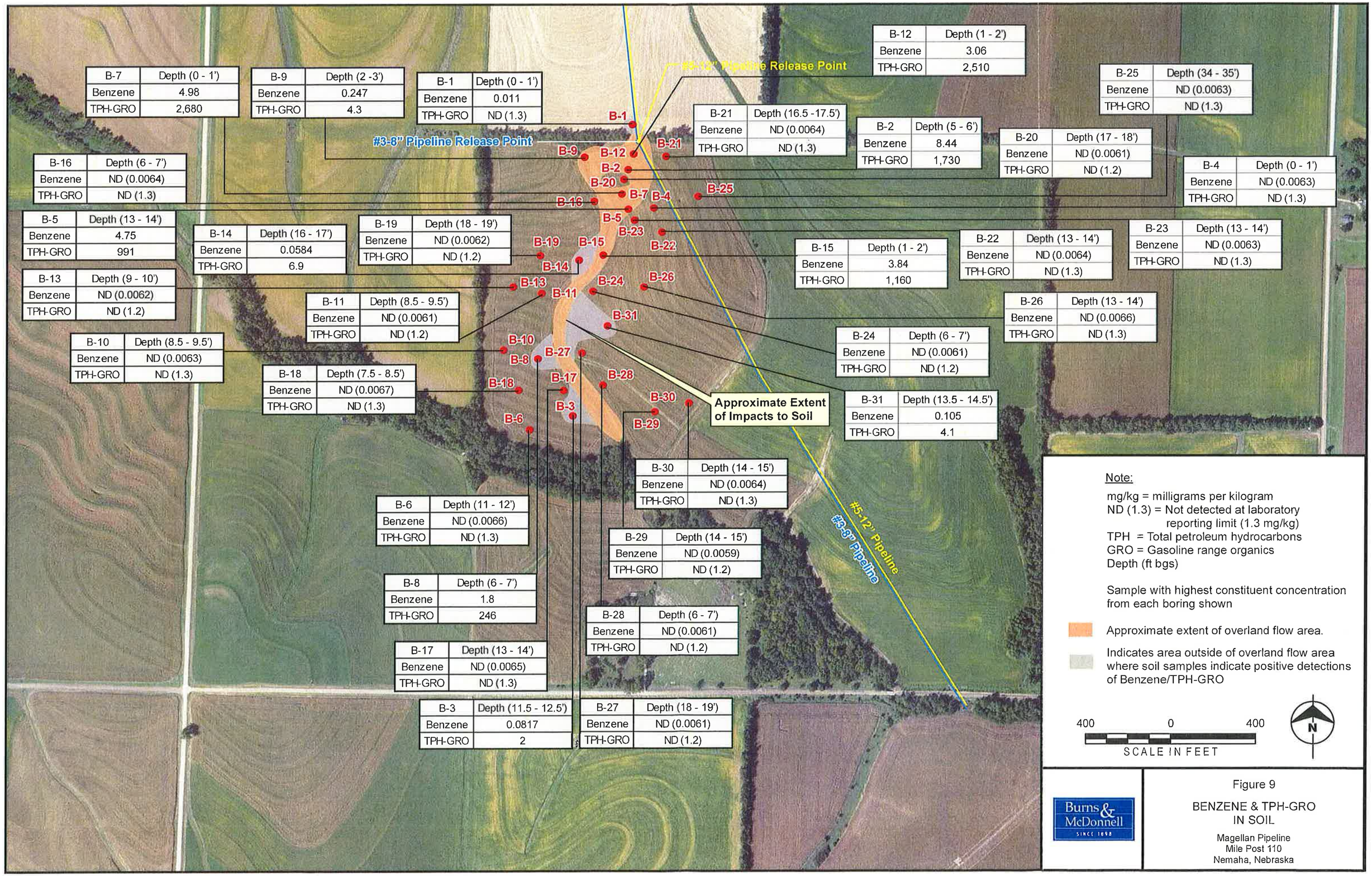


Figure 8
CROSS SECTION B-B'
MP 110
RELEASE
MAGELLAN PIPELINE
NEMAHA, NEBRASKA



B-7	Depth (0 - 1')
Benzene	4.98
TPH-GRO	2,680

B-9	Depth (2 -3')
Benzene	0.247
TPH-GRO	4.3

B-1	Depth (0 - 1')
Benzene	0.011
TPH-GRO	ND (1.3)

B-12	Depth (1 - 2')
Benzene	3.06
TPH-GRO	2,510

B-25	Depth (34 - 35')
Benzene	ND (0.0063)
TPH-GRO	ND (1.3)

B-21	Depth (16.5 -17.5')
Benzene	ND (0.0064)
TPH-GRO	ND (1.3)

B-2	Depth (5 - 6')
Benzene	8.44
TPH-GRO	1,730

B-20	Depth (17 - 18')
Benzene	ND (0.0061)
TPH-GRO	ND (1.2)

B-16	Depth (6 - 7')
Benzene	ND (0.0064)
TPH-GRO	ND (1.3)

B-4	Depth (0 - 1')
Benzene	ND (0.0063)
TPH-GRO	ND (1.3)

B-5	Depth (13 - 14')
Benzene	4.75
TPH-GRO	991

B-14	Depth (16 - 17')
Benzene	0.0584
TPH-GRO	6.9

B-19	Depth (18 - 19')
Benzene	ND (0.0062)
TPH-GRO	ND (1.2)

B-15	Depth (1 - 2')
Benzene	3.84
TPH-GRO	1,160

B-22	Depth (13 - 14')
Benzene	ND (0.0064)
TPH-GRO	ND (1.3)

B-23	Depth (13 - 14')
Benzene	ND (0.0063)
TPH-GRO	ND (1.3)

B-13	Depth (9 - 10')
Benzene	ND (0.0062)
TPH-GRO	ND (1.2)

B-11	Depth (8.5 - 9.5')
Benzene	ND (0.0061)
TPH-GRO	ND (1.2)

B-26	Depth (13 - 14')
Benzene	ND (0.0066)
TPH-GRO	ND (1.3)

B-10	Depth (8.5 - 9.5')
Benzene	ND (0.0063)
TPH-GRO	ND (1.3)

B-24	Depth (6 - 7')
Benzene	ND (0.0061)
TPH-GRO	ND (1.2)

B-18	Depth (7.5 - 8.5')
Benzene	ND (0.0067)
TPH-GRO	ND (1.3)

B-31	Depth (13.5 - 14.5')
Benzene	0.105
TPH-GRO	4.1

B-30	Depth (14 - 15')
Benzene	ND (0.0064)
TPH-GRO	ND (1.3)

B-6	Depth (11 - 12')
Benzene	ND (0.0066)
TPH-GRO	ND (1.3)

B-29	Depth (14 - 15')
Benzene	ND (0.0059)
TPH-GRO	ND (1.2)

B-8	Depth (6 - 7')
Benzene	1.8
TPH-GRO	246

B-28	Depth (6 - 7')
Benzene	ND (0.0061)
TPH-GRO	ND (1.2)

B-17	Depth (13 - 14')
Benzene	ND (0.0065)
TPH-GRO	ND (1.3)

B-3	Depth (11.5 - 12.5')
Benzene	0.0817
TPH-GRO	2

B-27	Depth (18 - 19')
Benzene	ND (0.0061)
TPH-GRO	ND (1.2)

Figure 9

BENZENE & TPH-GRO IN SOIL

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig9_Benzene_TPH_GRO_in_Soil_MP110.mxd sos Mar 21, 2012

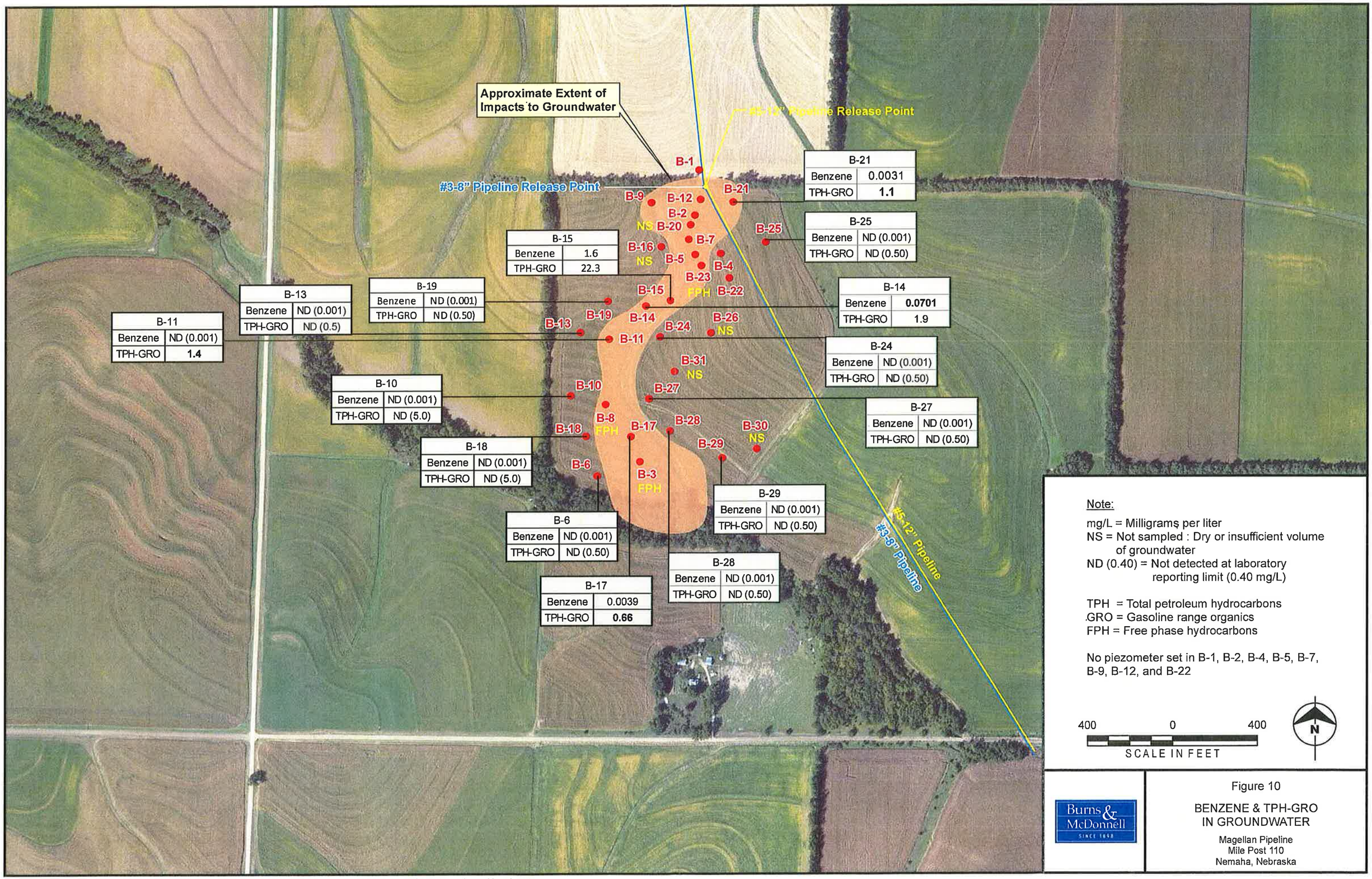
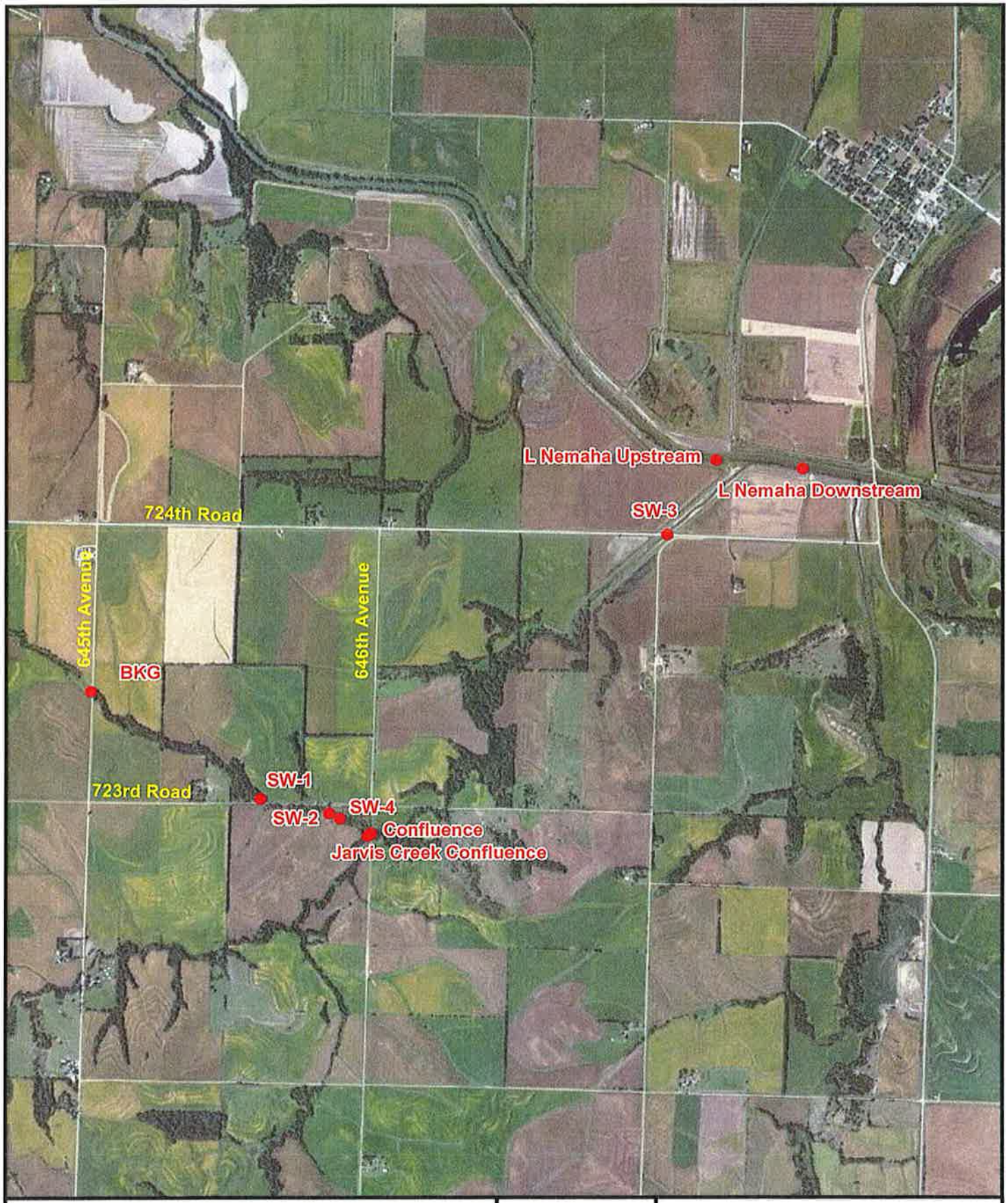


Figure 10

BENZENE & TPH-GRO IN GROUNDWATER

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig10_Benzene_TPH_GRO_in_GW_MP110.mxd sos Mar 21, 2012



LEGEND

● Surface Water Sample Locations

2,500 0 2,500

SCALE IN FEET

N

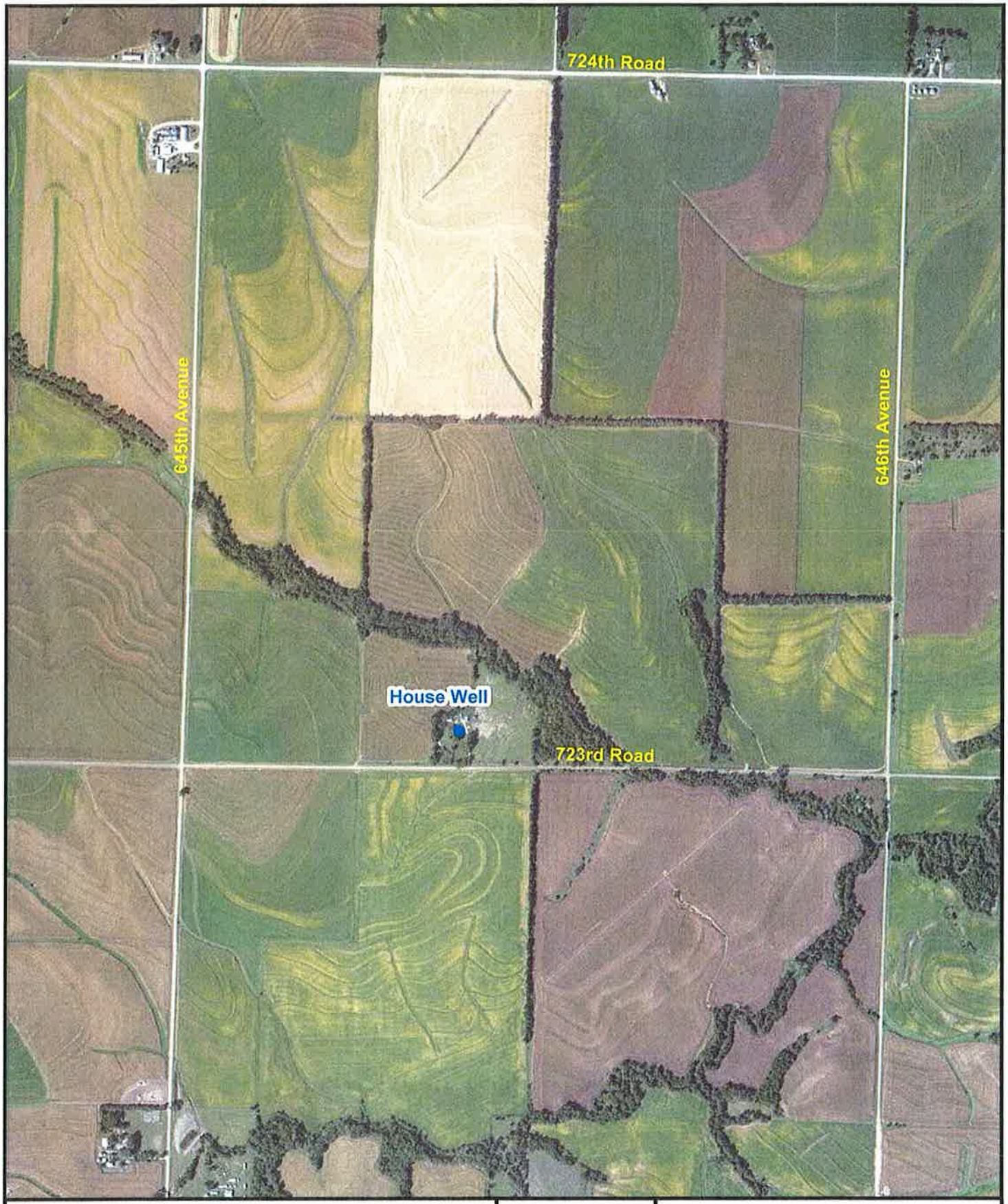
Burns & McDonnell
SINCE 1898

Figure 11

SURFACE WATER SAMPLE LOCATIONS

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig11_Surface_Water_Sample_Location_MP110.mxd sos Feb 22, 2012



Legend

● Hutton House Well Location

1,000 0 1,000

SCALE IN FEET

N

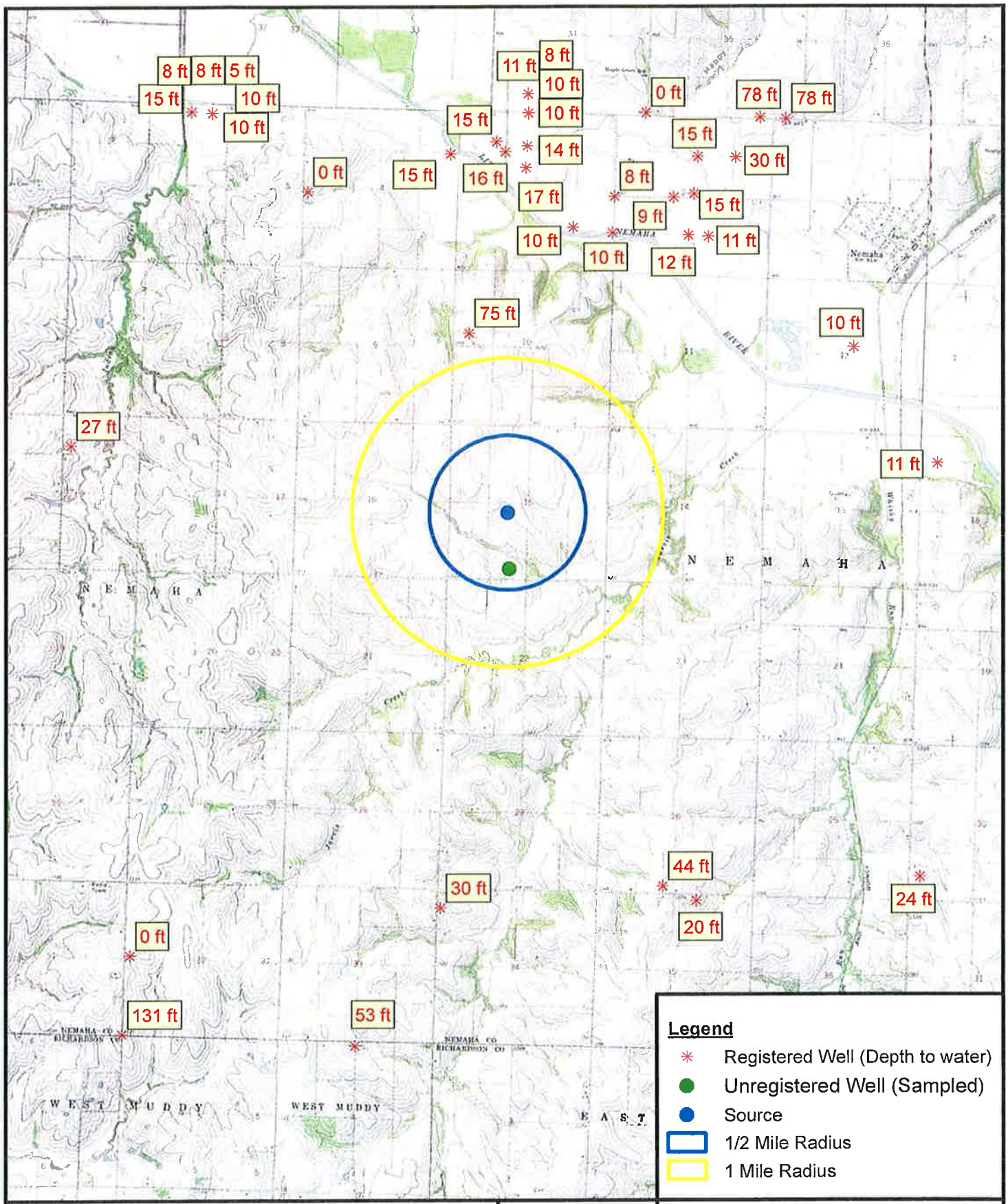
Burns & McDonnell

Figure 12

DOMESTIC WELL SAMPLE LOCATION

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Fig12_Domestic_Well_MP110.mxd sos Mar 21, 2012



4,500 0 4,500

SCALE IN FEET

N

Burns & McDonnell

SINCE 1898

Figure 13

WELL LOCATION MAP

Magellan Pipeline
Mile Post 110
Nemaha, Nebraska

K:\ENV\MAGELLAN PIPELINE COMPANY LLC\Site\65383\Data\BMcD GIS\Monitoring_Plan\Fig13_Well_Topographic_Map_MP110.mxd sos Mar 15, 2012

TABLES

Table 1
Fluid Levels in Temporary Piezometers
Magellan MP 110 Release
Nemaha County, Nebraska

Piezometer	Date	Elv. Top of Casing	Elv. Ground	Depth to FPH (Ft.)	Assumed S.G. of FPH	Depth to Water (Ft.)	Elv. of FPH (Ft.)	Measured FPH Thickness (Ft.)	Corrected FPH Thickness	Measured GW Elv. (Ft.)	Corrected GW Elv. (Ft.)
B-3	01/18/12	957.27	954.3	11.33	0.76	11.45	945.94	0.12	0.04	945.82	945.91
	01/24/12	957.27	954.3	11.29	0.76	11.42	945.98	0.13	0.04	945.85	945.95
	01/31/12	957.27	954.3	11.27	0.76	11.41	946.00	0.14	0.04	945.86	945.97
	02/16/12	957.27	954.3	10.87	0.76	10.99	946.40	0.12	0.04	946.28	946.37
B-6	01/18/12	958.25	955.4	--	0.76	14.74	--	--	--	943.51	943.51
	01/24/12	958.25	955.4	--	0.76	14.74	--	--	--	943.51	943.51
	01/31/12	958.25	955.4	--	0.76	14.73	--	--	--	943.52	943.52
	02/16/12	958.25	955.4	--	0.76	13.64	--	--	--	944.61	944.61
B-8	01/18/12	962.32	959.4	8.69	0.76	8.70	953.63	0.01	0.00	953.62	953.63
	01/24/12	962.32	959.4	8.78	0.76	8.79	953.54	0.01	0.00	953.53	953.54
	01/31/12	962.32	959.4	8.88	0.76	8.89	953.44	0.01	0.00	953.43	953.44
	02/16/12	962.32	959.4	--	0.76	8.03	--	--	--	954.29	954.29
B-10	01/18/12	962.27	959.6	--	0.76	9.03	--	--	--	953.24	953.24
	01/24/12	962.27	959.6	--	0.76	9.08	--	--	--	953.19	953.19
	01/31/12	962.27	959.6	--	0.76	9.14	--	--	--	953.13	953.13
	02/16/12	962.27	959.6	--	0.76	8.51	--	--	--	953.76	953.76
B-11	01/18/12	969.81	966.6	--	0.76	13.91	--	--	--	955.90	955.90
	01/24/12	969.81	966.6	--	0.76	13.97	--	--	--	955.84	955.84
	01/31/12	969.81	966.6	--	0.76	14.04	--	--	--	955.77	955.77
	02/16/12	969.81	966.6	--	0.76	13.36	--	--	--	956.45	956.45
B-13	01/18/12	971.87	969.00	--	0.76	14.99	--	--	--	956.88	956.88
	01/24/12	971.87	969.00	--	0.76	15.05	--	--	--	956.82	956.82
	01/31/12	971.87	969.00	--	0.76	15.11	--	--	--	956.76	956.76
	02/16/12	971.87	969.00	--	0.76	14.51	--	--	--	957.36	957.36
B-14	01/18/12	978.57	975.80	--	0.76	19.65	--	--	--	958.92	958.92
	01/24/12	978.57	975.80	--	0.76	19.77	--	--	--	958.80	958.80
	01/31/12	978.57	975.80	--	0.76	19.80	--	--	--	958.77	958.77
	02/16/12	978.57	975.80	--	0.76	18.52	--	--	--	960.05	960.05
B-15	01/18/12	978.21	974.90	--	0.76	--	--	--	--	--	--
	01/24/12	978.21	974.90	--	0.76	19.47	--	--	--	958.74	958.74
	01/31/12	978.21	974.90	--	0.76	18.83	--	--	--	959.38	959.38
	02/16/12	978.21	974.90	--	0.76	8.05	--	--	--	970.16	970.16
B-16	01/18/12	989.81	986.80	--	0.76	--	--	--	--	--	--
	01/24/12	989.81	986.80	--	0.76	--	--	--	--	--	--
	01/31/12	989.81	986.80	--	0.76	26.29	--	--	--	963.52	963.52
	02/16/12	989.81	986.80	--	0.76	25.95	--	--	--	963.86	963.86
B-17	01/18/12	960.35	957.00	--	0.76	9.94	--	--	--	950.41	950.41
	01/24/12	960.35	957.00	--	0.76	9.97	--	--	--	950.38	950.38
	01/31/12	960.35	957.00	--	0.76	9.96	--	--	--	950.39	950.39
	02/16/12	960.35	957.00	--	0.76	9.27	--	--	--	951.08	951.08
B-18	01/18/12	959.98	956.70	--	0.76	8.99	--	--	--	950.99	950.99
	01/24/12	959.98	956.70	--	0.76	9.02	--	--	--	950.96	950.96
	01/31/12	959.98	956.70	--	0.76	9.03	--	--	--	950.95	950.95
	02/16/12	959.98	956.70	--	0.76	8.80	--	--	--	951.18	951.18
B-19	01/18/12	976.80	974.20	--	0.76	--	--	--	--	--	--
	01/24/12	976.80	974.20	--	0.76	21.87	--	--	--	954.93	954.93
	01/31/12	976.80	974.20	--	0.76	21.41	--	--	--	955.39	955.39
	02/16/12	976.80	974.20	--	0.76	19.11	--	--	--	957.69	957.69
B-20	01/18/12	994.50	991.60	--	0.76	--	--	--	--	--	--
	01/24/12	994.50	991.60	--	0.76	--	--	--	--	--	--
	01/31/12	994.50	991.60	--	0.76	26.34	--	--	--	968.16	968.16
	02/16/12	994.50	991.60	--	0.76	26.11	--	--	--	968.39	968.39
B-21	01/18/12	1009.65	1006.30	--	0.76	38.53	--	--	--	971.12	971.12
	01/24/12	1009.65	1006.30	--	0.76	38.64	--	--	--	971.01	971.01
	01/31/12	1009.65	1006.30	--	0.76	38.70	--	--	--	970.95	970.95
	02/16/12	1009.65	1006.30	--	0.76	38.80	--	--	--	970.85	970.85
B-23	01/18/12	989.55	986.10	22.07	0.76	22.67	967.48	0.60	0.19	966.88	967.34
	01/24/12	989.55	986.10	22.08	0.76	22.73	967.47	0.65	0.21	966.82	967.31
	01/31/12	989.55	986.10	22.06	0.76	22.79	967.49	0.73	0.23	966.76	967.31
	02/16/12	989.55	986.10	--	0.76	21.83	--	--	--	967.72	967.72
B-24	01/18/12	975.20	972.50	--	0.76	17.69	--	--	--	957.51	957.51
	01/24/12	975.20	972.50	--	0.76	15.48	--	--	--	959.72	959.72
	01/31/12	975.20	972.50	--	0.76	15.24	--	--	--	959.96	959.96
	02/16/12	975.20	972.50	--	0.76	13.70	--	--	--	961.50	961.50

Table 1
Fluid Levels in Temporary Piezometers
Magellan MP 110 Release
Nemaha County, Nebraska

Piezometer	Date	Elv. Top of Casing	Elv. Ground	Depth to FPH (Ft.)	Assumed S.G. of FPH	Depth to Water (Ft.)	Elv. of FPH (Ft.)	Measured FPH Thickness (Ft.)	Corrected FPH Thickness	Measured GW Elv. (Ft.)	Corrected GW Elv. (Ft.)
B-25	01/18/12	1008.83	1005.60	--	0.76	39.02	--	--	--	969.81	969.81
	01/24/12	1008.83	1005.60	--	0.76	39.12	--	--	--	969.71	969.71
	01/31/12	1008.83	1005.60	--	0.76	39.15	--	--	--	969.68	969.68
	02/16/12	1008.83	1005.60	--	0.76	39.23	--	--	--	969.60	969.60
B-26	01/18/12	990.33	987.00	--	0.76	--	--	--	--	--	--
	01/24/12	990.33	987.00	--	0.76	--	--	--	--	--	--
	01/31/12	990.33	987.00	--	0.76	--	--	--	--	--	--
	02/16/12	990.33	987.00	--	0.76	--	--	--	--	--	--
B-27	01/18/12	965.36	962.90	--	0.76	10.96	--	--	--	954.40	954.40
	01/24/12	965.36	962.90	--	0.76	11.01	--	--	--	954.35	954.35
	01/31/12	965.36	962.90	--	0.76	11.03	--	--	--	954.33	954.33
	02/16/12	965.36	962.90	--	0.76	9.96	--	--	--	955.40	955.40
B-28	01/18/12	961.43	958.00	--	0.76	17.56	--	--	--	943.87	943.87
	01/24/12	961.43	958.00	--	0.76	16.05	--	--	--	945.38	945.38
	01/31/12	961.43	958.00	--	0.76	16.26	--	--	--	945.17	945.17
	02/16/12	961.43	958.00	--	0.76	12.29	--	--	--	949.14	949.14
B-29	01/18/12	962.47	959.00	--	0.76	17.84	--	--	--	944.63	944.63
	01/24/12	962.47	959.00	--	0.76	17.26	--	--	--	945.21	945.21
	01/31/12	962.47	959.00	--	0.76	17.19	--	--	--	945.28	945.28
	02/16/12	962.47	959.00	--	0.76	16.61	--	--	--	945.86	945.86
B-30	01/18/12	970.55	967.00	--	0.76	--	--	--	--	--	--
	01/24/12	970.55	967.00	--	0.76	--	--	--	--	--	--
	01/31/12	970.55	967.00	--	0.76	--	--	--	--	--	--
	02/16/12	970.55	967.00	--	0.76	--	--	--	--	--	--
B-31	01/18/12	976.62	973.10	--	0.76	--	--	--	--	--	--
	01/24/12	976.62	973.10	--	0.76	--	--	--	--	--	--
	01/31/12	976.62	973.10	--	0.76	18.45	--	--	--	958.17	958.17
	02/16/12	976.62	973.10	--	0.76	15.92	--	--	--	960.70	960.70

FPH = Free phase hydrocarbons

-- = FPH/groundwater not present

Ft = Feet

Table 2
Laboratory Analytical Results
Soil Samples
Magellan MP 110 Release
Nemaha County, Nebraska

Sample Identification	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	n-Hexane (mg/kg)	MTBE (mg/kg)	TPH GRO (mg/kg)	TPH Diesel (mg/kg)	TPH Fuel Oil (mg/kg)	TPH Jet Fuel (mg/kg)	TPH Kerosene (mg/kg)	TPH Mineral Spirits (mg/kg)	TPH Motor Oil (mg/kg)	TPH DRO (mg/kg)
B-1/SS-1	12/12/2011	0-1	**0.011**	**0.124**	**0.0244**	**0.116**	ND (0.0063)	ND (0.0063)	ND (1.3)	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)
B-1/SS-2	12/12/2011	1-2	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (1.3)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)
B-2/SS-1	12/12/2011	5-6	**8.44**	**137**	**23.7**	**162**	**10.4**	ND (0.647)	**1,730**	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	**4,100**
B-2/SS-2	12/12/2011	23-24	**0.839**	**10.9**	**3.52**	**19**	**1.21**	ND (0.298)	**342**	**317**	ND (23.5)	ND (23.5)	ND (23.5)	ND (23.5)	ND (23.5)	ND (23.5)
B-2/SS-3	12/12/2011	24-25	**0.0146**	**0.0663**	**0.0072**	**0.0388**	ND (0.0059)	ND (0.0059)	ND (1.2)	ND (23.2)	ND (23.2)	ND (23.2)	ND (23.2)	ND (23.2)	ND (23.2)	ND (23.2)
B-3/SS-1	1/11/2012	11.5-12.5	**0.0817**	**.205**	**0.0078**	**.332**	**0.0106**	NA	**2.0**	ND (24.2)	ND (24.2)	ND (24.2)	ND (24.2)	ND (24.2)	ND (24.2)	ND (24.2)
B-4/SS-1	12/13/2011	0-1	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (1.3)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)
B-5/SS-1	12/13/2011	13-14	**4.75**	**75.9**	**12.5**	**92.8**	**5.33**	ND (0.311)	**991**	**233**	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)	ND (25.2)
B-5/SS-2	12/13/2011	18.5-19.5	**0.176**	**1.41**	**0.180**	**0.885**	**0.0586**	ND (0.0062)	**9.8**	ND (23.0)	ND (23.0)	ND (23.0)	ND (23.0)	ND (23.0)	ND (23.0)	ND (23.0)
B-6/SS-1	1/11/2012	11-12	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	NA	ND (1.3)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)
B-7/SS-1	12/13/2011	0-1	**4.98**	**93.9**	**28.1**	**143**	**6.16**	ND (0.321)	**2,680**	ND (25.4)	ND (25.4)	ND (25.4)	ND (25.4)	ND (25.4)	ND (25.4)	**2,660**
B-7/SS-2	12/13/2011	19-20	**0.551**	**2.6**	**0.392**	**2.14**	ND (0.295)	ND (0.295)	ND (59.0)	ND (23.7)	ND (23.7)	ND (23.7)	ND (23.7)	ND (23.7)	ND (23.7)	**29.0**
B-8/SS-1	1/11/2012	6-7	**1.8**	**13.4**	**3.19**	**16.6**	**1.07**	NA	**246**	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)
B-8/SS-2	1/11/2012	8.5-9.5	**0.351**	**1.43**	**0.0355**	**0.442**	**0.0104**	NA	**3.3**	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)	ND (24.1)
B-9/SS-1	12/13/2011	2-3	**0.247**	**4.53**	**0.0983**	**0.450**	**0.0234**	ND (0.0063)	**4.3**	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)	**120**
B-9/SS-2	12/13/2011	19-20	ND (0.0061)	**0.0672**	**0.0131**	**0.0661**	ND (0.0061)	ND (0.0061)	ND (1.2)	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)	ND (24.0)
B-10/SS-1	1/11/2012	8.5-9.5	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	NA	ND (1.3)	ND (24.9)	ND (24.9)	ND (24.9)	ND (24.9)	ND (24.9)	ND (24.9)	ND (24.9)
B-11/SS-1	1/11/2012	8.5-9.5	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	**0.0129**	NA	ND (1.2)	ND (24.8)	ND (24.8)	ND (24.8)	ND (24.8)	ND (24.8)	ND (24.8)	ND (24.8)
B-12/SS-1	12/13/2011	1-2	**3.06**	**92.7**	**18.6**	**169**	**4.44**	ND (0.319)	**2,510**	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	**1,660**
B-12/SS-2	12/13/2011	14-15	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (1.3)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)
B-13/SS-1	1/11/2012	9-10	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	NA	ND (1.2)	ND (22.3)	ND (22.3)	ND (22.3)	ND (22.3)	ND (22.3)	ND (22.3)	ND (22.3)
B-14/SS-1	1/11/2012	16-17	**0.0584**	**0.358**	**0.0769**	**0.477**	**0.0064**	NA	**6.9**	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)	**43.2**
B-14/SS-2	1/11/2012	17-18	**0.0062**	**0.0409**	ND (0.0060)	**0.0301**	ND (0.0060)	NA	ND (1.2)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)
B-15/SS-1	1/11/2012	1-2	**3.84**	**8.27**	**13.2**	**17.2**	**2.47**	NA	**1,160**	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	**2,260**
B-15/SS-2	1/11/2012	6-7	**0.0152**	**0.0173**	ND (0.0062)	**0.155**	**0.0146**	NA	**9.3**	ND (23.9)	ND (23.9)	ND (23.9)	ND (23.9)	ND (23.9)	ND (23.9)	ND (23.9)
B-16/SS-1	1/11/2012	6-7	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	NA	ND (1.3)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)	ND (24.6)
B-17/SS-1	1/11/2012	13-14	ND (0.0065)	ND (0.0065)	ND (0.0065)	ND (0.0065)	ND (0.0065)	NA	ND (1.3)	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)	ND (22.7)
B-18/SS-1	1/11/2012	7.5-8.5	ND (0.0067)	ND (0.0067)	ND (0.0067)	ND (0.0067)	ND (0.0067)	NA	ND (1.3)	ND (25.9)	ND (25.9)	ND (25.9)	ND (25.9)	ND (25.9)	ND (25.9)	ND (25.9)
B-19/SS-1	1/12/0212	18-19	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	ND (0.0062)	NA	ND (1.2)	ND (23.3)	ND (23.3)	ND (23.3)	ND (23.3)	ND (23.3)	ND (23.3)	ND (23.3)
B-20/SS-1	1/12/2012	17-18	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	**0.0170**	NA	ND (1.2)	ND (22.4)	ND (22.4)	ND (22.4)	ND (22.4)	ND (22.4)	ND (22.4)	ND (22.4)

Table 2
Laboratory Analytical Results
Soil Samples
Magellan MP 110 Release
Nemaha County, Nebraska

Sample Identification	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	n-Hexane (mg/kg)	MTBE (mg/kg)	TPH GRO (mg/kg)	TPH Diesel (mg/kg)	TPH Fuel Oil (mg/kg)	TPH Jet Fuel (mg/kg)	TPH Kerosene (mg/kg)	TPH Mineral Spirits (mg/kg)	TPH Motor Oil (mg/kg)	TPH DRO (mg/kg)
B-21/SS-1	1/12/2012	16.5-17.5	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	NA	ND (1.3)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)	ND (24.5)
B-22/SS-1	1/12/2012	13-14	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	NA	ND (1.3)	ND (23.1)	ND (23.1)	ND (23.1)	ND (23.1)	ND (23.1)	ND (23.1)	ND (23.1)
B-23/SS-1	1/12/2012	13-14	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	NA	ND (1.3)	ND (25.1)	ND (25.1)	ND (25.1)	ND (25.1)	ND (25.1)	ND (25.1)	ND (25.1)
B-24/SS-1	1/12/2012	6-7	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	NA	ND (1.2)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)	ND (21.9)
B-25/SS-1	1/12/2012	34-35	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	ND (0.0063)	NA	ND (1.3)	ND (22.1)	ND (22.1)	ND (22.1)	ND (22.1)	ND (22.1)	ND (22.1)	ND (22.1)
B-26/SS-1	1/13/2012	13-14	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	ND (0.0066)	NA	ND (1.3)	ND (25.8)	ND (25.8)	ND (25.8)	ND (25.8)	ND (25.8)	ND (25.8)	ND (25.8)
B-27/SS-1	1/13/2012	18-19	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	NA	ND (1.2)	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)
B-28/SS-1	1/13/2012	6-7	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	ND (0.0061)	NA	ND (1.2)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)	ND (24.4)
B-29/SS-1	1/13/2012	14-15	ND (0.0059)	ND (0.0059)	ND (0.0059)	ND (0.0059)	ND (0.0059)	NA	ND (1.2)	ND (23.8)	ND (23.8)	ND (23.8)	ND (23.8)	ND (23.8)	ND (23.8)	ND (23.8)
B-30/SS-1	1/13/2012	14-15	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	ND (0.0064)	NA	ND (1.3)	ND (25.5)	ND (25.5)	ND (25.5)	ND (25.5)	ND (25.5)	ND (25.5)	ND (25.5)
B-31/SS-1	1/13/2012	13.5-14.5	**0.105**	**0.613**	**0.0617**	**0.796**	**0.0267**	NA	**4.1**	ND (25.4)	ND (25.4)	ND (25.4)	ND (25.4)	ND (25.4)	ND (25.4)	**29.8**

Notes:

BOLD values indicate analyte detections

mg/kg = milligrams per kilogram

ND = Not detected - detection limits shown in parentheses

NA = Not analyzed

Table 3
Laboratory Analytical Results
Groundwater Samples
Magellan MP 110 Release
Nemaha County, Nebraska

	Sample Point:	B-6	B-10	B-11	B-13	B-14	B-15	B-17	B-18	B-19
	Date Sampled:	1/19/2012	1/19/2012	1/19/2012	1/19/2012	1/19/2012	2/8/2012	1/19/2012	1/19/2012	2/8/2012
	Units									
TPH (OA2)										
Diesel Fuel	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Fuel Oil	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Jet Fuel	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Kerosene	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Mineral Spirits	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Motor Oil	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Total Petroleum Hydrocarbons	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.49)	**9.4**	ND (0.40)	ND (0.40)	**1.4**
VOCs/TPH (8260/OA1)										
TPH-GRO	mg/L	ND (0.50)	ND (5.0)	**1.4**	ND (0.5)	**1.9**	**22.3**	**0.66**	ND (5.0)	ND (0.50)
Benzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	**0.0701**	**1.6**	**0.0039**	ND (0.001)	ND (0.001)
Toluene	mg/L	**0.0023**	ND (0.001)	**0.0026**	**0.001**	**0.133**	**4.54**	**0.0348**	ND (0.001)	**0.0101**
Ethylbenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	**0.0015**	**0.0243**	**0.0026**	ND (0.001)	**0.0022**
Total Xylenes	mg/L	**0.0064**	ND (0.003)	**0.0182**	ND (0.003)	**0.104**	**1.94**	**0.096**	ND (0.003)	**0.0218**
n-Hexane	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.100)	ND (0.010)	ND (0.010)	ND (0.010)

BOLD values indicate analyte detection

mg/L = Milligrams per liter

TPH = Total petroleum hydrocarbons

GRO = Gasoline range organics

VOCs = Volatile organic compounds

ND (0.40) = Not detected at laboratory reporting limit (0.40 mg/L)

DUP-1 is a duplicate of Sample B-17

Table 3
Laboratory Analytical Results
Groundwater Samples
Magellan MP 110 Release
Nemaha County, Nebraska

	Sample Point:	B-21	B-24	B-25	B-27	B-28	B-29	DUP-1
	Date Sampled:	1/19/2012 & 1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/19/2012
	Units							
TPH (OA2)								
Diesel Fuel	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Fuel Oil	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Jet Fuel	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Kerosene	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Mineral Spirits	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Motor Oil	mg/L	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Total Petroleum Hydrocarbons	mg/L	ND (0.40)	**0.85**	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
VOCs/TPH (8260/OA1)								
TPH-GRO	mg/L	**1.1**	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzene	mg/L	**0.0031**	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	**0.0017**
Toluene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	**0.0129**
Ethylbenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	**0.0012**
Total Xylenes	mg/L	**0.0563**	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	**0.0462**
n-Hexane	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)

BOLD values indicate analyte detection

mg/L = Milligrams per liter

TPH = Total petroleum hydrocarbons

GRO = Gasoline range organics

VOCs = Volatile organic compounds

ND (0.40) = Not detected at laboratory reporting limit (0.40 mg/L)

DUP-1 is a duplicate of Sample B-17

Table 4
Laboratory Analytical Results
Surface Water and Domestic Well Samples
Magellan MP 110 Release
Nemaha County, Nebraska

	Sample Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	n-Hexane (mg/L)	TPH GRO (mg/L)	TPH Diesel (mg/L)	TPH Fuel Oil (mg/L)	TPH Jet Fuel (mg/L)	TPH Kerosene (mg/L)	TPH Mineral Spirits (mg/L)	TPH DRO (mg/L)	TPH GRO + DRO (mg/L)
	NDEQ General Criteria for Aquatic Life (Acute)		5.3	17.5	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	10
Upstream	Background - Impacted Tributary														
	BKG	12/11/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	BKG	12/14/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	Underflow Dam #2 Outfall														
	SW-1	12/12/2011	0.0139	0.381	0.139	0.794	ND (0.010)	4.3	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	1.8	6.1
	SW-1	12/13/2011	0.0057	0.162	0.0683	0.404	ND (0.010)	2.9	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	2.7	5.6
	SW-1	12/14/2011	0.0182	0.180	0.0396	0.248	ND (0.050)	ND (2.5)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	5.6	5.6
	SW-1	12/15/2011	ND (0.001)	0.0193	0.0061	0.0366	ND (0.010)	ND (0.5)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	0.60	0.60
	SW-1	12/16/2011	ND (0.001)	0.0105	0.0034	0.0195	ND (0.010)	ND (0.5)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	12/17/2011	ND (0.001)	0.011	0.0033	0.0186	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	12/18/2011	ND (0.001)	0.0102	0.0031	0.0179	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	12/19/2011	ND (0.001)	0.0193	0.0054	0.0291	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	12/20/2011	ND (0.001)	0.0078	0.0026	0.014	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	12/21/2011	ND (0.001)	0.0064	0.0021	0.0111	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	12/28/2011	ND (0.001)	0.0100	0.0044	0.0324	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	1/5/2012	ND (0.001)	0.0032	ND (0.001)	0.0062	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	1/12/2012	ND (0.001)	0.0016	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	1/19/2012	ND (0.001)	0.0028	ND (0.001)	0.0053	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	1/26/2012	ND (0.001)	0.0015	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	2/1/2012	ND (0.001)	0.0017	ND (0.001)	0.0031	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	2/8/2012	ND (0.001)	0.0018	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-1	2/16/2012	ND (0.001)	0.0037	ND (0.001)	0.0064	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	Underflow Dam #4 Outfall														
	Underflow Dam	12/11/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	12/12/2011	0.222	1.7	0.296	1.56	ND (0.010)	8.0	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	3.0	**11.0**
	SW-2	12/13/2011	0.320	1.91	0.363	1.87	ND (0.010)	8.9	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	3.8	**12.7**
	SW-2	12/14/2011	0.0221	0.234	0.0667	0.405	ND (0.10)	ND (5.0)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	2.0	2.0
	SW-2	12/15/2011	0.0112	0.135	0.0443	0.271	ND (0.050)	ND (2.5)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	1.8	1.8
	SW-2	12/16/2011	0.0092	0.107	0.0329	0.208	ND (0.050)	ND (2.5)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	5.6	5.6
	SW-2	12/17/2011	0.0026	0.0509	0.0196	0.112	ND (0.010)	0.84	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	1.0	1.8
	SW-2	12/18/2011	0.0018	0.0297	0.0116	0.072	ND (0.010)	1.2	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	7.8	9.0
	SW-2	12/19/2011	0.0014	0.0257	0.0113	0.0699	ND (0.010)	0.57	1.5	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	2.07
	SW-2	12/20/2011	ND (0.001)	0.0188	0.0094	0.060	ND (0.010)	0.69	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	4.4	5.09
	SW-2	12/21/2011	ND (0.001)	0.0093	0.0042	0.026	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	6.8	6.8
	SW-2	12/28/2011	ND (0.001)	0.0100	0.0035	0.0209	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	1/5/2012	ND (0.001)	0.0065	0.0021	0.0148	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	1/12/2012	ND (0.001)	0.0037	0.0012	0.0095	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	1/19/2012	ND (0.001)	0.0040	0.0012	0.0088	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	1/26/2012	ND (0.001)	0.0038	0.0012	0.0101	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	2/1/2012	ND (0.001)	0.0037	0.0014	0.0098	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	2/8/2012	ND (0.001)	0.0019	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	SW-2	2/16/2012	ND (0.001)	0.0034	ND (0.001)	0.0075	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND

Table 4
Laboratory Analytical Results
Surface Water and Domestic Well Samples
Magellan MP 110 Release
Nemaha County, Nebraska

Sample Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	n-Hexane (mg/L)	TPH GRO (mg/L)	TPH Diesel (mg/L)	TPH Fuel Oil (mg/L)	TPH Jet Fuel (mg/L)	TPH Kerosene (mg/L)	TPH Mineral Spirits (mg/L)	TPH DRO (mg/L)	TPH GRO + DRO (mg/L)
NDEQ General Criteria for Aquatic Life (Acute)		5.3	17.5	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	10
Boom Station on Impacted Tributary Downstream of Underflow Dam #4 Outfall														
SW-4	12/13/2011	0.227	1.53	0.279	1.50	ND (0.010)	7.3	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	3.6	**10.9**
Jarvis Creek Upstream of Confluence with Impacted Tributary														
Jarvis Ck Confluence	12/13/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Jarvis Ck Confluence	12/14/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Jarvis Ck Confluence	12/16/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Jarvis Ck Confluence	12/17/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Jarvis Creek Downstream of Confluence with Impacted Tributary														
Confluence	12/15/2011	0.0025	0.0255	0.0070	0.0451	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	12/16/2011	ND (0.001)	0.0084	0.0036	0.0237	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	12/17/2011	ND (0.001)	0.0099	0/0037	0.0229	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	12/18/2011	ND (0.001)	0.0033	0.0014	0.0082	ND (0.010)	ND (0.50)	0.53	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	0.53
Confluence	12/19/2011	ND (0.001)	0.0029	0.0013	0.0086	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	12/20/2011	ND (0.001)	0.0027	0.0012	0.0084	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	12/21/2011	ND (0.001)	0.0012	ND (0.001)	0.0036	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	12/28/2011	ND (0.001)	0.0012	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	1/5/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	1/12/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	1/19/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	1/26/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	2/1/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	2/8/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Confluence	2/16/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Jarvis Creek - Bridge on 724 Road														
SW-3	12/12/2011	ND (0.001)	0.0016	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/13/2011	0.0014	0.0129	0.0023	0.0144	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/14/2011	0.0099	0.0743	0.0147	0.0880	ND (0.010)	0.50	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	0.50
SW-3	12/15/2011	ND (0.001)	0.0056	0.0017	0.0115	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/16/2011	ND (0.001)	0.0026	0.0011	0.0075	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/17/2011	ND (0.001)	0.0017	ND (0.001)	0.0053	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/18/2011	ND (0.001)	0.001	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/19/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/20/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/21/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	12/28/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	1/5/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	1/12/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	1/19/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	1/26/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	2/1/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	2/8/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
SW-3	2/16/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND

Table 4
Laboratory Analytical Results
Surface Water and Domestic Well Samples
Magellan MP 110 Release
Nemaha County, Nebraska

	Sample Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	n-Hexane (mg/L)	TPH GRO (mg/L)	TPH Diesel (mg/L)	TPH Fuel Oil (mg/L)	TPH Jet Fuel (mg/L)	TPH Kerosene (mg/L)	TPH Mineral Spirits (mg/L)	TPH DRO (mg/L)	TPH GRO + DRO (mg/L)
	NDEQ General Criteria for Aquatic Life (Acute)		5.3	17.5	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	10
	Little Nemaha River Upstream of Confluence with Jarvis Creek														
	L Nemaha Upstream	12/16/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Upstream	12/17/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	Little Nemaha River Downstream of Confluence with Jarvis Creek														
	L Nemaha Downstream	12/16/2011	ND (0.001)	0.0011	ND (0.001)	0.0031	ND (0.10)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	12/17/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.10)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	12/18/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	12/19/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	12/20/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	12/21/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	12/28/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	1/5/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	1/12/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	1/19/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	1/26/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	2/1/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	L Nemaha Downstream	2/8/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
Downstream	L Nemaha Downstream	2/16/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND
Domestic Well	Domestic Well South and West of Impacted Tributary (Hutton Well)														
	Home 1	12/11/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	House Well	12/14/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	House Well	1/12/2011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND
	House Well	2/8/2012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.010)	ND (0.50)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND

Notes:

Samples analyzed by Iowa Methods OA1 (VOCs and GRO) & OA2 (TPH-DRO)

mg/L = milligrams per liter

ND = Not detected - detection limits shown in parentheses

NA = Not applicable

Results in **BOLD** exceed the NDEQ General Criteria for Aquatic Life (Acute)

Note: 1/19/12 SW-1 & SW-2 containers for VOC analysis froze/ruptured; these locations were resampled on 1/20/12 for VOCs.

ATTACHMENT 1

Magellan Release Report

Gustafson, Trevor

Subject: FW: Release Report Finalized -- 12/10/2011, KC 3N & 5N Nemaha County Nebraska, 252,000 gallons, Gasoline and Diesel

-----Original Message-----
From: livelinkadm@magellanlp.com [mailto:livelinkadm@magellanlp.com]
Sent: Tuesday, December 13, 2011 3:25 PM
To: MMP - Release Report Distribution
Subject: Release Report Finalized -- 12/10/2011, KC 3N & 5N Nemaha County Nebraska, 252,000 gallons, Gasoline and Diesel

The following Release Report has been finalized by Steve Steward (steward). Review the completed report below:

Report Data:

Is this a drill? No

What is your name? Doug Mitchell

What is your phone number? 918-574-7367

Name of Supervisor reviewing release data: Steve Steward (steward)

District Incident Occurred: Midwest

What happened? (Incident Summary): Dozer cleaning fence line of trees struck pipeline(s). Damaged the KC 8" 3N line and the KC 12" 5N line.

Date and Time (Central) incident occurred: 12/10/2011

Type of Product released: Gasoline and Diesel

Estimated amount released (in gallons): 252,000

Product released to (i.e. Soil, gravel, concrete, etc)? Soil

Was there a fire, explosion, fatality or injury? No

Is there a vapor cloud? No

Did incident impact surface water (e.g. pond/lake/creek/river/etc)? Yes

Did incident occur at a Facility (Terminal, Pump Station, etc)? No

What is the facility name?

Was 100% of the release incident contained in a sump or dike area?

If no, how much was not contained?

What is the pipeline segment name? KC 3N & 5N Nemaha County Nebraska

Provide Address, City, County, and Stat or nearest geographical location to release: Nemaha City, Nebraska - 2 miles south, 2.5 miles west

Was the NRC Notified? Yes

If yes, take down the NRC case number: Unknown

What mitigation measures have been taken on this incident? Line shut down and isolated. OSRO on site with Magellan personnel. Release has been stopped. Underflow dams constructed (3) on Jarvis Creek, hard boom on Jarvis Creek. Product collection occuring at collection points on Jarvis Creek. Air monitoring established for worker safety and surrounding area/residents.

Agencies contacted: NDEQ, EPA, PHMSA, LEPC

---------- Section 2: To be filled out by Supervisor ----------

Position of person that reported release: Luke Andrews "Dozer Operator/Son of Land Owner"

Release Discovered By: Luke Andrews

Pipeline Mile Post (if pipeline release): MP 110

Facility or Pipeline Section / Township / Range:

Facility Latitude / Longitude: 40.31277 N 95.72125 W

Facility tank capacity:

Number of evacuations: None

Number of injuries: None

Number of fatalities: None

Amount in water if impacted (in barrels): unknown at this time

---

Waterways type and name if affected:

River: No,

Stream: Yes, Jarvis Creek

Lake No,

Drainage Features: Yes, tile

Intermittent Stream: No,

Other:

Third Party Damage: No

Estimated Loss / Damage amount: >$200,000

Updated Mitigation Measures or Incident Summary: The IC was stood down at 12:30 PM on Monday December 12, 2011 and the incident was moved into a cleanup/recovery mode. BOth pipelines have been repairs and placed back in operations. Underflow and overflow dams have been constructed at number location in Jarvis creek . Soil bores are been down in arund the leak site to help idenfied the affected area so a plan can be develop on the actual removal of soil in around the line stike. Monitoring and recovery efforts are continuing along Jarvis creek.

Pre-investigation Cause --

Pipe or Weld Failure other than corrosion:

Natural Forces:

Equipment Failure:

Corrosion:

Human Error - Company:

Human Error - Contractor: Yes

Non-Maintenance:

Human Error - Driver:

The livelink workflow number is 4929890.

ATTACHMENT 2

Boring Logs

Drilling Log

Project Name: NEMAHA - MAGELLAN	Project Number: 65383	Boring Number: B-1
Ground Elevation: N/A	Location: NEMAHA	Page: 1 OF 1
Air Monitoring Equipment: PID MINI RAE 2000		Total Footage: 10'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	10'	0'	2	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER, SCOTT FERRIS
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 12/12/11 To: 12/12/11	Field Observer(s): KYLE PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	CLAY, SOME SILT, TRACE SAND, DARK BROWN (7.5YR 3/2) MEDIUM PLASTICITY, STIFF, DAMP	CL		3.5/5.00	1610	1612 B-1/SS-1, 0-1' bgs, (BTEX, MTBE, TEH)	3.7		50.4	BEGIN 1610
1						1615 B-1/SS-2, 1-2' bgs, (BTEX, MTBE, TEH)				
2										* NOTE * AIR PID READIN APPROX. 15' AWI FROM BORING ARE B/W 0.5-3.5 PPM
									8.4	
3	CLAY, SOME SILT, TRACE SAND BROWN (7.5YR 4/3) MEDIUM PLASTICITY, STIFF, DAMP	CL								
4									9.3	
							6.9	34.3	5.7	
5				5.0/5.0	1620					
6										
7									4.5	
8	CLAY, SOME SILT, TRACE SAND GRAYISH BROWN (2.5Y 5/2), MEDIUM PLASTICITY, STIFF, DAMP.	CL								
9									3.1	
10	END BORING, TOTAL DEPTH 10' bgs									END: 1625
11										
12										
13										
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log

Project Name: MAGELLAN-NEMAHA	Project Number: 65383	Boring Number: B-2
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID NIMI RAE 2000		Total Footage: 25'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	24'	1'	3	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER, SCOTT FERRIS
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 12/12/11 To: 12/12/11	Field Observer(s): KYLE PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	CLAY, SOME SILT, TRACE SAND, DARK BROWN (7.5 YR 3/2), MEDIUM PLASTICITY, STIFF, DAMP	CL		3.0/5.0	1640		8.7		1150	BEGIN: 1640
2									1314	
3	CLAY, SOME SILT, TRACE SAND DARK GRAYISH BROWN (2.5 Y 4/2), MEDIUM PLASTICITY, STIFF, DAMP.	CL								* NOTE *
4							8.9	275	1172	AIR PID READIN APPROX. 20' AWI FROM BORING ARE B/W 5.0 -15.0 PPM
5				5.0/5.0	1645	1647 B-2 / SS-1, 5-6' bgs, (BTEX, MTBE, TEH)			1848	
6	CLAY, SOME SILT, TRACE SAND, DARK GRAYISH BROWN (2.5Y 4/2) MEDIUM TO HIGHLY PLASTIC, MEDIUM, DAMP TO MOIST	CH								
7									882	
8										
9										
10				5.0/5.0	1650		9.1	747	608	
11									613	
12	CLAY, SOME SILT, TRACE SAND, LIGHT OLIVE BROWN (2.5Y 5/3) MEDIUM TO HIGHLY PLASTIC, MEDIUM, DAMP TO MOIST	CH								
13									402	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Project Name	MAGELLAN - NEMAHA
Project Number	65383
Boring Number	B-2
Page	2 of 2
Date	12/12/11

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	CLAY, SOME SILT, TRACE SAND, LIGHT OLIVE BROWN (2.5Y 5/3) MEDIUM TO HIGHLY PLASTIC, MEDIUM, DAMP TO MOIST	CH					13.4	866	65.1	
15				4.0/5.0	1655					
16									216	
17										
18									248	
19									1040	
20									1630	
				5.0/5.0	1700				1620	
21	CLAY, SOME SAND, TRACE SILT, BROWN (7.5YR 4/4) VERY STIFF, TRACE PLASTICITY, DAMP	CL								
22									1463	
23						1707 B-2	SS-2, 23-24' bgs (BTEX, MTBE, TEH)		102	
24	WEATHERED SHALE, DARK GREENISH GRAY (GLEY 1 4/10Y) NON PLASTIC, HARD, DAMP					1710 B-2	SS-3, 24-25' bgs (BTEX, MTBE, TEH) 12.4	681	12.7	
25	END BORING, REFUSAL, TOTAL DEPTH 25' bgs									END: 1705

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan Nemaha	Project Number: 65383		Boring Number: B-3
Ground Elevation	Location: Nemaha, Nebraska		Page: 1 of 2
Air Monitoring Equipment: PID			Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	20'	NA	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeves
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Morrell

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, some silt, black, medium plasticity, medium consistency, moist	CL	NA	2.5/5	Start 0850				0	
2										
3										
4									0	
5										
6	Clay, brown, medium plasticity, medium consistency, moist								0	
7				4.2/5					2.5	
8									0	
9									0	
10	becoming more wet								0	
11									0	
12	Clay, brown, high plasticity, soft to medium consistency, moist	CH		4.2/5		B-3 SS-1 0915			6.4	▼
13	wet at 12.5'								0	
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Project Name	Magellan Nemaha
Project Number	65383
Boring Number	B-3
Page	2 of 2
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
			NA						1.3	
15										
16	Clay, some silt, brownish gray, medium plasticity, medium to stiff consistency, moist								0	
17				5/5					0	
18		CL							0	
19										
20									0	
	Bottom of hole = 20' bgs									Set piezometer at bottom of borehole w/ 10' of screen 1,153 ppm in piezo w/ PID

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: MAGELLAN, NEMAHA	Project Number: 65383	Boring Number: B-4
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 1
Air Monitoring Equipment: MINI RAE PID 2000		Total Footage: 5'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	5'	0'	1	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE LINER
Date: 12/13/11 To: 12/13/11	Field Observer(s): K. PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	SILT, SOME CLAY, BROWN (10YR 4/3), MEDIUM PLASTICITY, VERY STIFF, DAMP	ML			4.0/5.0	1205 1210 B-4			1.7	BEGIN: 1205
							SS-1, 0-1' bgs (BTEX, MTBE, TEH)			
2									0.8	
3										
4	SILT, SOME CLAY, BROWN (10YR 5/3) MEDIUM PLASTICITY, STIFF, DAMP	ML					0.5	1.0	0.6	
5	END BORING, TOTAL DEPTH: 5' bgs									END: 1210
6										
7										
8										
9										
10										
11										
12										
13										
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log

Project Name: MAGELLAN-NEMAHA	Project Number: 65383	Boring Number: B-5
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID MINI RAE 2000		Total Footage: 19.5'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	19'	0.5'	2	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 12/13/11 To: 12/13/11	Field Observer(s): KYLE PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
					5.0/5.0	0935			356	BEGIN: 0935
1	CLAY, SOME SILT, BROWN (10YR 4/3) TRACE PLASTICITY, VERY STIFF, DAMP	CL								
									36.0	
2										
									27.5	
3	CLAY, SOME SILT, YELLOWISH BROWN (10YR 5/4) MEDIUM PLASTICITY, STIFF, DAMP	CL								
4							0.4	121	16.5	
5				4.0/5.0	0940					
									11.0	
6										
									41.9	
7	CLAY, SOME SILT, YELLOWISH BROWN (10YR 5/4) / MEDIUM PLASTICITY MEDIUM CONSISTENCY, DAMP TO MOIST	CL								
8									13.0	
9										
							0.0	124	2.4	
10				5.0/5.0	0945					
									87.0	
11	CLAY, SOME SILT, TRACE SAND, DARK YELLOWISH BROWN (10YR 4/4), TRACE TO MEDIUM PLASTICITY, VERY STIFF, DAMP	CL								
12									631	
									1685	
13						0950 B-5/SS-1, 13-14' bgs (BTEX, MTBE, TEH)				
									1678	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Project Name	MAGELLAN - NEMAHA
Project Number	65383
Boring Number	B-5
Page	2 of 2
Date	12/13/11

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	CLAY, SOME SILT, TRACE SAND, DARK YELLOWISH BROWN (10YR 4/4) TRACE TO MEDIUM PLASTICITY, VERY STIFF, DAMP	CL								
15				4.0/4.5	0955		0.0	177	460	
									690	
16										
									453	
17										
									147	
18										
									41.8	
						1000 B-5/SS-2, 18.5-19.5' bgs (BTEX, MTBE, TEH				
19	WEATHERED SHALE (10YR 6/3) PALE BROWN						0.0	225	8.4	
20	END BORING, REFUSAL, TOTAL DEPTH: 19.5' bgs									END: 1000

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP110	Project Number: 65383	Boring Number: B-6
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	20'	NA	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black medium plasticity, medium to stiff consistency, moist		NA	5/5					0	
1									0	
2		CL								
3									0	
4									0	
5									0	
6									0	
7				5/5					0	
8									0	
9										
	Clay, some silt, grayish brown, high plasticity, medium to soft consistency, moist						0	0	0	
10										
11									0	
		CH				B-6 SS-1 0950				
12				5/5					0	
	Clay, some silt, brown, soft to medium consistency, medium to high plasticity, moist to wet									
13									0	
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Boring Number	B-6
Project Name	Magellan MP 110 Nemaha, NE
Page	2 of 2
Project Number	65383
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Same as above, becoming more gray	CH	NA							
15										
16				4/5				11	0	
17									0	
18	Same as above, wet								0	
19									0	
20								8.4		
	Bottom of hole = 20' bgs									Set piezo at bottom of hole. Piezo has 10' of screen.

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: MAGELLAN, NEMAHA	Project Number: 65383	Boring Number: B-7
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: MINI RAE PID 2000		Total Footage: 20.0

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	19.5	0.5	2	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 12/13/11 To: 12/13/11	Field Observer(s): KYLE PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	SILT, SOME CLAY, DARK BROWN (7.5YR 3/2) MEDIUM PLASTICITY, VERY STIFF, DAMP	ML		5.0/5.0	1230 1233	B-7 (BTEX, MTBE, TEA)	/SS-1,0-1' bgs		865	BEGIN: 1230
1									318	* NOTE * AIR PID READING APPROX. 15' AW FROM BORING AT B/W 1.0-3.0 PP
2									428	
3	CLAY, SOME SILT, BROWN (10YR 5/3) MEDIUM PLASTICITY, STIFF, DAMP	CL								
4									270	
							4.7	1021	718	
5				5.0/5.0	1240					
6	CLAY, TRACE SILT, BROWN (10YR 5/3) HIGH PLASTICITY, MEDIUM CONSISTENCY, DAMP	CH							610	
7										
8									246	
9										
							5.7	1238	263	
10				5.0/5.0	1250					
11									408	
12										
13									110	
14									14.0	

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	MAGELLAN, NEMAHA
Project Number	65383
Boring Number	B-7
Page	2 of 2
Date	12/13/11

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	CLAY, TRACE SILT, BROWN (10YR 5/3) MEDIUM TO HIGH PLASTICITY, VERY STIFF, DAMP	CH					4.0	1015	8.2	
15				5.0/5.0	1300					
16									45	
17									65	
18									57	
19									10	
						1305	B-7/SS-2, 19.0-20.0'bgs FOR (BTEX, MTBE, TEH)			
	WEATHERED SHALE LIGHT YELLOWISH BROWN (10YR 6/4) NONPLASTIC, HARD, DAMP						3.1	1250	8	
20	END BORING, REFUSAL @ 20'bgs									END: 1305

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-8
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 15'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	15'	NA	3	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black, medium consistency, medium plasticity, moist	CL	NA	4.1/5	Start 1020				0	
1									0	
2										
3									0	
4									0	
5										
6				5/5		B-8 SS-1 1035			80	
7									55	
8									44	
9						B-8 SS-2 1040			7.5 / 4	▼
10	Clay, brown, medium to soft consistency, medium to high plasticity, moist to wet	CH		2/5						
11										
12										
13									3.3	
14	Same as above, except wet								4.5	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

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Drilling Log Continuation

Project Name	Magellan MP 110 Nemaha, NE
Project Number	65383
Boring Number	B-8
Page	2 of 2
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15								159	1.7	
	Bottom of hole = 15-3/4									Install piezometer at 15-3/4 w/ 10' of screen 1500 ppm w/ PID in piezo

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: MAGELLAN, NEMAHA	Project Number: 65383	Boring Number: B-9
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: MINI RAE PID 2000		Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	20'	0	2	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 12/13/11 To: 12/13/11	Field Observer(s): KYLE PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	SILT, SOME CLAY, VERY DARK GRAYISH BROWN (10YR 3/2), TRACE TO MEDIUM PLASTICITY, VERY STIFF, DAMP	ML		5.0/5.0	1025				162	BEGIN: 1025
1									204	
2						1027 B-9/SS-1, 2-3' bgs (BTEX, MTBE, TEH)			19.0	
3	CLAY, WITH SILT, DARK YELLOWISH BROWN (10YR 4/4), MEDIUM PLASTICITY, VERY STIFF, DAMP	CL							16.0	* NOTE * AIR PID READIN APPROX. 15' AWA FROM BORING ARE B/W 0.5-3.5 PPM
4										
							1.6	252	7.4	
5				5.0/5.0	1030					
6									2.5	
7	CLAY, TRACE SILT, YELLOWISH BROWN (10YR 5/4), HIGHLY PLASTIC, MEDIUM, DAMP TO MOIST	CH							3.0	
8										
9										
							5.7	284	5.1	
10				5.0/5.0	1035					
11									8.6	
12									10.4	
13									163	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Boring Number	B-9
Project Name	MAGELLAN, NEMAHA
Page	2 OF 2
Project Number	65383
Date	12/13/11

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	CLAY, TRACE SILT, YELLOWISH BROWN (10YR 5/4) HIGHLY PLASTIC, MEDIUM, DAMP TO MOIST	CH					1.1	204	85.6	
				5.0/5.0	1045					
16									19.6	
17									45.2	
18	CLAY, TRACE SILT, DARK BROWN (10YR 3/3), MEDIUM PLASTICITY, VERY STIFF, DAMP	CL							17.4	
19						1050 B-9/SS-2, 19-20' bgs (BTEX, MTBE, TEH	2.6	205	3.9	
20	END BORING, TOTAL DEPTH: 20' bgs									END: 1050

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-10
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 32'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	32'	NA	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black, medium plasticity, medium consistency, damp	CL	NA		Start 1115				0	
1										
2				2.5/5					0	
3										
4									0	
	Clay, some silt, dark brown, medium to low plasticity, medium to stiff consistency, moist									
5									0	
6										
7				3.5/5					0	
8									0	
9						B-10 SS-1 1130			0	
									0	
10	Clay, brown, medium to soft consistency, medium to high plasticity moist to wet	CH								
11									0	
12				3.5/5						
	Clay, brown and gray mottling, stiff consistency, medium plasticity, some sandstone grains	CL							0	
13										
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

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Drilling Log Continuation

Project Name	Magellan MP 110 Nemaha, NE
Project Number	65383
Boring Number	B-10
Page	2 of 2
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	↑									
16										
17	No recovery; too wet									
18										
19	↓									
20										
	Bottom of hole = 20'									
21										
	Advanced rod w/ driving point to 32' bgs refusal. Appears bedrock at 32' bgs.									
	Advanced seperate boring next to original to 15' bgs and set piezometer w/ 10' of screen at 15' bgs.									

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-11
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage:

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	15'	NA	3	NA

Drilling Company: Razek Environmental		Driller(s): Tony Poulter + Scott Ferris	
Drilling Rig: Geoprobe 6620		Type of Sampler: Macrocore w/ acetate sleeve	
Date: 1/11/12	To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty	

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black, med consistency, medium plasticity, moist		NA		Start 1210				0	
1		CL								
2				3.1/5					0	
3										
4	Clay, some silt, brown, medium consistency, medium plasticity, moist								0	
5										
6				3.2/5						
7									9.1	
8										
9						B-11 SS-1 1225			5.0	▼
									7.4	
10	Clay, brown, high plasticity, soft consistency, wet									
11		CH		3.6/5						
12									5.3	
13									5.4	
14									5.4	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

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Drilling Log Continuation

Boring Number	B-11
Project Name	Magellan MP 110
Page	2 of 2
Project Number	65383
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
								275	5.3	
15	Bottom of hole = 15'									Install piezometer at 15' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: MAGELLAN, NEMAHA	Project Number: 65383	Boring Number: B-12
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 of 2
Air Monitoring Equipment: MINI RAE PID 2000		Total Footage: 15'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	15'	0	2	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE w/ ACETATE SLEEVE
Date: 12/13/11 To: 12/13/11	Field Observer(s): KYLE PERINO

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	SILT, SOME CLAY, DARK BROWN (10YR 3/2), TRACE PLASTICITY, VERY STIFF, DAMP	ML		4.0/5.0	1115				1048	BEGIN: 1115
1						1117 B-12			1303	/SS-1, 1-2' bgs (BTEX, MTBE, TEH)
2										
3	SILT TRACE CLAY, BROWN (10YR 5/2) ~~BROWN~~ TRACE PLASTICITY, VERY STIFF, DAMP	ML							25.3	
4							0.9	147	20.2	
5				5.0/5.0	1120				19.2	
6	CLAY, SOME SILT, BROWN (10YR 5/2), MEDIUM PLASTICITY, STIFF, DAMP	CL								
7									8.6	
8									23.8	
9							0.7	667	12.7	
10				5.0/5.0	1130					
11									7.3	
12	CLAY, SOME SILT, BROWN (10YR 4/2) MEDIUM TO HIGHLY PLASTIC, MEDIUM CONSISTENCY, DAMP	CH							5.4	
13										
14									2.0	

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	MAGELLAN, NEMAHA
Project Number	65383
Boring Number	B-12
Page	2 of 2
Date	12/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
						1135	B-12/SS-2, 14-15' bgs (BTEX, MTBE, TEH) 2.0	951	2.0	
15	END BORING, TOTAL DEPTH: 15' bgs									END: 1135

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110		Project Number: 65383		Boring Number: B-13	
Ground Elevation		Location: Nemaha, NE		Page: 1 of 2	
Air Monitoring Equipment: PID				Total Footage	
Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	15'	NA	3	NA
Drilling Company: Razek Environmental			Driller(s): Tony Poulter & Scott Ferris		
Drilling Rig: Geoprobe 6620			Type of Sampler: Macrocore w/ acetate sleeve		
Date: 1/11/12	To: 1/11/12		Field Observer(s): Trevor Gustafson & Tom Moriarty		

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black, medium plasticity, medium consistency, moist	CL	NA						0	
1				4/5					0	
2									0	
3									0	
4	Clay, grayish brown, medium plasticity, medium to stiff consistency, moist								0	
5									0	
6									0	
7				5/5					0	
8									0	
9	Clay, some silt, medium plasticity, medium consistency, moist					B-13 SS-1 1315			0	▼
10									0	
11				5/5					0	
12									0	
13									0	
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log Continuation

Boring Number	B-13
Project Name	Magellan Nemaha, NE
Page	2 of 2
Project Number	65383
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Bottom of hole = 15'									Install piezometer at 15' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-14
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 19.5

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	19'	0.5'	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Scott Ferris

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, black, medium to low plasticity, medium consistency, moist	CL	NA		Start 1325				0	
1									0	
2				3.8/5						
3									0	
4	Clay, brown, medium plasticity, medium consistency, moist								0	
5									0	
6				5/5					0	
7									0	
8									0	
9									0	
10									0	
11				5/5					0	
12									0	
13										
14	Clay, light brown, medium consistency, med to high plasticity, moist	CH							0	

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	Magellan MP 110
Project Number	65383
Boring Number	B-14
Page	2 of 2
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15										
16	Clay, yellowish brown, medium consistency, low plasticity, damp			4.5 / 4.5		B-14 SS-1 1350			16.5 80	
17	Clay, light gray, stiff consistency, non-plastic damp	CL				B-14 SS-2 1355			0	
18	SHALE light gray, weathered sandstone grains at 19-	shale							0	
19										
20	Bottom of hole = 19.5- refusal @ 19.5-									Set piezo at 19.5- bgs w/ 10- of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383		Boring Number: B-15
Ground Elevation:	Location: Nemaha, NE		Page: 1 of 2
Air Monitoring Equipment: PID			Total Footage: 16.5'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	15.5'	1.0'	4	NA

Drilling Company: Razek Environmental		Driller(s): Tony Poulter + Scott Ferris	
Drilling Rig: Geoprobe 6620		Type of Sampler: Macrocore w/ acetate sleeve	
Date: 1/11/12	To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty	

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, medium plasticity, medium consistency moist	CL	NA		Start 1410				110	
1				3.9/5		B-15 SS-1 1415			940	
2										
3									280	
4	Clay, some silt, dark brown, medium plasticity, medium consistency, moist								150	
5									58	
6				5/5		B-15 SS-2 1425			12.5	
7	Same as above, stiff consistency								8.5	
8										
9									0	
10										
11				5/5					0	
12									0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	Magellan MP 110
Project Number	65383
Boring Number	B-15
Page	2 of 2
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15										
16	SHALE, ~~weathered~~, strong LIMESTONE at 16.5'	Shale								
17	Bottom of hole = 16.5' bgs									Set piezometer at 16.5' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-16
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 23.5

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	23	0.5	5	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Travis Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, grayish brown, medium plasticity, medium consistency, moist	CL	NA	24/5					0	
2										
3									0	
4										
5									0	
6	Clay, light brown, some silt, soft consistency, medium to high plasticity, moist			5/5		B-16 SS-1 1515			0	
7		CH								
8									0	
9									0	
10									0	
11				5/5					0	
12										
13									0	
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log Continuation

Project Name	Magellan MP 110
Project Number	65383
Boring Number	B-16
Page	2 of 2
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
									0	
15	Clay, some silt, reddish brown, medium consistency medium plasticity, moist									
16									0	
17	stiff consistency	CL								
18				28/5					0	
19										
20									0	
21									0	
22	Clay, reddish brown, stiff consistency, medium plasticity, moist			3.5/3.5					0	
23	LIMESTONE, strong	LMS								
24	Bottom of hole = 23.5' Refusal @ 23.5'									Set piezometer at 23.5' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP110	Project Number: 65383	Boring Number: B-17
Ground Elevation:	Location: Nemaha, NE	Page:
Air Monitoring Equipment: PID		Total Footage:

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	~~NA~~ 15'	NA	3	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt stack medium consistency, medium plasticity, moist	CL	NA						0	
1									0	
2				2.9/5						
3									0	
4									0	
5									0	
6	Same as above medium to stiff consistency			5/5					0	
7									0	
8									0	
9									0	
10									0	
11									0	
12				5/5						
13	Clay, some silt, grayish brown, medium to high plasticity medium to soft consistency, moist wet at 14	CH				B-17 SS-1 1605			0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log Continuation

Boring Number	B-17
Project Name	Magellan MP 110
Page	1 of 2
Project Number	65383
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Bottom of hole = 15' bgs									Set piezometer at 15' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-18
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 15'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	15'	NA	3	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/11/12 To: 1/11/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, some silt, medium plasticity, medium consistency, moist	CL	NA						0	
2				5/5					0	
3									0	
4									0	
5									0	
6									0	
7				5/5					0	
8						B-18 SS-1 1630			0	▼
9	Clay, some silt, very dark brown, medium to high plasticity, soft consistency, wet								0	
10									0	
11		CH		5/5					0	
12	same as above, moist								0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log Continuation

Boring Number	B-18
Project Name	Magellan Pipeline MP 110
Page	2 of 2
Project Number	65383
Date	1/11/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Bottom of hole = 15'									Set piezometer at 15' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383		Boring Number: B-19
Ground Elevation:	Location: Nemaha, NE		Page: 1 of 2
Air Monitoring Equipment: PID			Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	19.5'	0.5'	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/12/12 To: 1/12/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black, medium consistency, medium plasticity, moist	CL	NA			Start 0825				
1				1.6/5						
2									0	
3										
4									0	
5	Clay, some silt, reddish brown, medium to stiff consistency, medium plasticity, moist									
6									0	
7	Clay, brown, medium to stiff consistency, medium ~~consistency~~ plasticity, moist			5/5					0	
8										
9									0	
10	same as above, medium consistency									
11									0	
12				5/5					0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log Continuation

Project Name	Magellan MP 110
Project Number	65383
Boring Number	B-19
Page	1 of 2
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Clay, reddish brown, stiff consistency, medium plasticity, moist	CL							0	
16									0	
17										
18				5/5					0	
19	Clay, some sandstone grains, stiff consistency, trace plasticity, moist					B-19 SS-1 0905			0	
20	SHALE, weathered, olive gray	Shale								
	Bottom of hole = 20'									Set piezometer at 20' BGS w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383		Boring Number: B-20
Ground Elevation:	Location: Nemaha, NE		Page: 1 of 2
Air Monitoring Equipment: PID			Total Footage: 23.5

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	19.5'	4.0'	5	NA

Drilling Company: Razek Environmental		Driller(s): Tony Poulter + Scott Ferris	
Drilling Rig: Geoprobe 6620		Type of Sampler: Macrocore + acetate sleeve	
Date: 1/12/12	To: 1/12/12	Field Observer(s): Trevor Gustafson + Tom Moriarty	

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, black, medium consistency, medium plasticity, moist	CL	NA		Start 0920				0	
1									0	
2										
	Clay, some silt grayish brown, medium consistency, medium plasticity, moist			3.8/5						
3									0	
4										
5										
6									3.1	
7				5/5					15	
									9.8	
8										
	Clay, yellowish brown, medium to soft consistency, medium to high plasticity, moist									
9									20.5	
10									21.1	
		CH								
11				5/5					0.5	
12									2.1	
13									21.5	
14									10.8	

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Boring Number	B-20
Project Name	Magellan MP 110
Page	2 of 2
Project Number	65383
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
			NA					3.2	9.1	
15	Clay, reddish brown, some silt, medium plasticity, medium consistency, moist									
16										
17		CL		4/5		B-20 SS-1			26	
18									28.7	
19									2.8	
20	SHALE, weathered olive gray, very weak								3.5	
21		Shale		1.5/3.5						
22									25.5	
23									2.1 1.5	
24	Bottom of hole = 23.5' Refusal @ 23.5'									Set piezometer at 23.5' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-21
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 23
Air Monitoring Equipment: PID		Total Footage: 40'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	37'	3'	8	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/12/12 To: 1/12/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, grayish brown, stiff consistency, trace plasticity, damp	CL	NA							
2				1.0/5						
3										
4									0	
5										
6										
7				2.9/5					0	
8									0	
9									0	
10	Clay, some silt, brown and gray mottling, medium plasticity, soft to medium consistency, moist								0	
11				5/5					0	
12									0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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Drilling Log Continuation

Boring Number	B-21
Project Name	Magellan MP 110
Page	1 of 23
Project Number	65383
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Clay, some silt, gray, medium to soft consistency, medium plasticity, moist	CL							0	
16									0	
17				5/5		B-21 SS-1				
18									0	
19										
20									0	
21				5/5					0	
22	Clay, some silt, reddish brown, medium to stiff consistency, medium plasticity, moist									
23									0	
24										
25									0	
26									0	
27				5/5						
28									0	
29									0	
30										
31				5/5					0	

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log Continuation

Boring Number	B-21
Project Name	Magellan MP 110
Page	3 of 3
Project Number	65383
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
32		CL							0	
33										
34									0	
35										
36									0	
37	SHALE, highly weathered gray and tan w/ sand grains, very weak to weak	shale		5/5						
38									0	
39	weak, fossils								0	
40										
	Bottom of hole = 40.0' Refusal @ 40.0'									Set piezometer at 40' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-22
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 15

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	15	0	3	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeve
Date: 1/12/12 To: 1/12/12	Field Observer(s): Trevor Gustafson + Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, brown and gray mottling, medium consistency, medium plasticity, moist	CL	NA							
1										
2				1.9/5						
3									0	
4										
5									0	
	Clay, some silt, brown and gray mottling, medium to soft consistency, medium plasticity, moist									
6									0	
7				5/5					0	
8									0	
9									0	
10										
11	Same as above, brown			3.7/5					0	
12									0	
	Clay, some silt, light brown, soft to medium consistency, medium plasticity, moist									
13						B-22 SS-1 1305			0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Boring Number	B-22
Project Name	Magellan MP 110
Page	2 of 2
Project Number	65383
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
									0	
15	Bottom of hole = 15-									Set piezometer at 15- bgs w/ 10- of screen 1/13/12 Removed piezometer from borehole due to lack of groundwater

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP 110	Project Number: 65383	Boring Number: B-23
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	19.5'	0.5'	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter + Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeves
Date: 1/12/12 To: 1/12/12	Field Observer(s): Trevor Gustafson + ~~Scot~~ Tom Morient

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, some silt, brown and gray mottling, medium plasticity, medium consistency, moist	CL	NA							
2				2/5						
3									0	
4									0	
5										
6	Clay, some silt, gray and brown mottling, medium to soft consistency, medium plasticity, moist			5/5					0	
7									0	
8									0	
9									0	
10										
11				5/5					0	
12									0	
13	same as above; brown								0	
14						B-23 SS-1 1340			0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Boring Number	B-23
Project Name	Magellan MP 110
Page	2 of 2
Project Number	65383
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Clay, some silt, stiff consistency, medium to trace plasticity, moist reddish brown	CL							0	
16									0	
17				5/5						
18									0	
19										
20	SHALE, weathered	Shale							0	
	Bottom of hole = 20' Refusal @ 20'									Set piezometer at 20' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP110	Project Number: 65383	Boring Number: B-24
Ground Elevation:	Location: Nemaha, NE	Page: 1 of 2
Air Monitoring Equipment: PID		Total Footage:

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	19'	1'	4	NA

Drilling Company: Razek Environmental	Driller(s): Tony Poulter & Scott Ferris
Drilling Rig: Geoprobe 6620	Type of Sampler: Macrocore w/ acetate sleeves
Date: 1/12/12 To: 1/12/12	Field Observer(s): Trevor Gustafson & Tom Moriarty

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, some silt, black to dark brown, medium plasticity, medium consistency, moist	CL	NA	1.7/5	Start 1410					
2										
3									0	
4									0	
5										
6	Clay, some silt, medium to stiff consistency, med plasticity, moist					B-24 SS-1			3.4	
7				5/5					2.5	
	Clay, some silt, grayish brown, stiff consistency, medium plasticity, moist								2.0	
8									2.6	
9									0	
10									0	
11									0	
	Same as above, light brown			5/5					0	
12									0	
13									0	
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Boring Number	B-24
Project Name	Magellan MP 110
Page	2 of 2
Project Number	65383
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CL	NA							
15									0	
16										
	Clay, some silt brown and gray mottling, trace sandstone grains, stiff consistency, medium plasticity, moist			5/5					0	
17										
18									0	
19										
	SHALE, olive gray and yellowish brown, weathered, very weak	Shale							0	
20										
										Set piezometer at 20' bgs w/ 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: Magellan MP110		Project Number: 65383		Boring Number: B-25	
Ground Elevation:	Location: Nemaha, NE			Page: 1 of 43	
Air Monitoring Equipment: PID				Total Footage: 50'	
Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
Direct-Push	2"	49.4	0.6	10	NA
Drilling Company: Razek Environmental			Driller(s): Tony Poulter + Scott Ferris		
Drilling Rig: Geoprobe 6620			Type of Sampler: Acetate sleeve inside Macrocore		
Date: 1/12/12	To: 1/12/12		Field Observer(s): Trevor Gustafson + Tom Moriarity		

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
1	Clay, some silt, dark brown, medium plasticity, medium consistency, moist	CL	NA		Start 1550					
2				2.2/5					0	
3									0	
4									0	
5									0	
6	Clay, brown, medium to soft consistency, medium plasticity, moist, some silt									
7				5/5					0	
8									0	
9									0	
10									0	
11	Same as above soft consistency									
12				5/5					0	
13									0	
14									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Project Name	Magellan MP 110
Project Number	65383
Boring Number	B-25
Page	2 of 43
Date	1/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CL							0	
15										
16									0	
17										
18				5/5					0	
19										
20									0	
21										
22				5/5					0	
23	Clay, some silt, brown medium to stiff consistency, medium to low plasticity, moist									
24									0	
25										
26									0	
27	medium consistency			5/5					0	
28										
29	soft consistency								0	
30										
31									0	

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log Continuation

Boring Number	B-25
Project Name	Magellan MP 110
Page	3 of 43
Project Number	65383
Date	11/12/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
32		CL							0	
33										
34	Clay, brown, stiff consistency, medium plasticity, moist			5/5		B-25 SS-1 1640			0	
35									0	
36										
37				5/5					0	
38										
39									0	
40									0	
41				5/5					0	
42										
43	medium consistency								0	
44									0	
45										
46				5/5					0	Set piezometer at 50' bgs w/ 10' of screen
47									0	
48										
49	SHALE, gray and light brown, weak	Shale							0	
50										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: NEMAHA-MAGELLAN	Project Number: 65383	Boring Number: B-26
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID MINI RAE 2000		Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	19'	1'	1	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): Tony Poulter, Scott Ferris
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 1/13/12 To: 1/13/12	Field Observer(s): TREVOR GUSTAFSON, TOM MORIARTY

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, light brown, medium to soft consistency, medium plasticity, moist	CL	NA		Start 0830				0	
1									0	
2				3.6/5					0	
3									0	
4									0	
5									0	
6									0	
7				5/5					0	
8	Clay, gray with iron nodules, soft consistency, medium to high plasticity, moist								0	
9									0	
10		CH							0	
11									0	
12				3.6/5					0	
13						B26/SS1 0905			0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	NEMAHA - MAGELLAN
Project Number	65383
Boring Number	B-26
Page	2 OF 2
Date	1/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Clay, with silt, Brown, Soft Consistancy, high plasticity, moist								0	
									0	
16		CH								
									0	
17				2.5/5						
									0	
18	Clay, with silt, Brown, stiff consistancy, low plasticity, damp	CL							0	
19	Weathered shale, with iron nodules, gray, weak strength, stiff consistancy	SHALE							0	
20	Bottom of hole. Refusal at 20' bgs									Set piezometer at 20' bgs with 10' of screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: NEMAHA-MAGELLAN	Project Number: 65383	Boring Number: B-27
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID MINI RAE 2000		Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	19'	1'	1	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER, SCOTT FERRIS
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 1/13/12 To: 1/13/12	Field Observer(s): TREVOR GUSTAFSON, TOM MORIARTY

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CL	NA						0	
1	Clay, some silt, Dark Brown, stiff consistancy, low plasticity, moist			3.5/5.0					0	
2									0	
3									0	
4	Clay, trace silt, Gray with iron nodules, medium consistancy, medium plasticity, moist								0	
5									0	
6									0	
7				5/5					0	
8									0	
9	soft consistancy							0	0	
10									0	
11	Clay, some silt, Brown, stiff to medium consistancy, high plasticity, moist	CH		5/5					0	
12									0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-2-1

Drilling Log Continuation

Project Name	NEMAHA - MAGELLAN
Project Number	65383
Boring Number	B-27
Page	2 OF 2
Date	1/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
			NA						0	
15									0	
16		CH							0	
17				2.8/5					0	
18						B27/S1			0	
19						0955			0	▽
20	Weather shale, gray with iron nodules, weak strength, stiff consistency, wet	SHALE							0	
	Bottom of hole, refusal at 20' bgs									Set piezometer at 20' bgs with 10' screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name: NEMAHA-MAGELLAN	Project Number: 65383	Boring Number: B-28
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID MINI RAE 2000		Total Footage: 15'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	14.5'	0.5'	1	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER, SCOTT FERRIS
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 1/13/12 To: 1/13/12	Field Observer(s): TREVOR GUSTAFSON, TOM MORIARTY

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CL	NA						0	
1									0	
2	Clay, some silt, Dark brown, stiff consistancy, medium plasticity, moist			3.4/5					0	
3									0	
4	Clay, trace silt, gray with iron nodules, stiff consistancy, medium plasticity, moist								0	
5									0	
6						B28/S51 104.0			0	
7				5/5					0	
8	Clay, Brown with black and iron nodules, stiff consistancy, high plasticity, moist								0	
9		CH						0	0	
10									0	
11									0	
12				5/5					0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	NEMAHA - MAGELLAN
Project Number	65383
Boring Number	B-28
Page	2 OF 2
Date	1/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Weathered shale, gray with iron nodules moderately strong, stiff consistency								0	
15	Bottom of hole. Refusal at 15' bgs									Set piezometer at 15' bgs with 10' screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: NEMAHA - MAGELLAN	Project Number: 65383	Boring Number: B-29
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID MINIRAE 2000		Total Footage: 20'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	17'	3'	1	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER, SCOTT FERRIS
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 1/13/12 To: 1/13/12	Field Observer(s): TREVOR GUSTAFSON, TOM MORSARTY

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CL	NA						0	
1				2.5/5					0	
2	Clay, with silt, Dark brown, medium to stiff consistency, low plasticity, moist								0	
3									0	
4	Clay, some silt, Brown, medium consistency medium plasticity, moist								0	
5									0	
6									0	
7				5/5					0	
8									0	
9	Clay, some silt, Gray brown, medium to stiff consistency, medium to low plasticity, moist								0	
10									0	
11	Clay, Trace silt, Brown, stiff consistency, medium, medium to high plasticity, moist								0	
12		CH		5/5					0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	NEMAHA - MAGELLAN
Project Number	65383
Boring Number	B - 29
Page	2 of 2
Date	1/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CH				B29/SS1 1155			0	
15	Weathered shale, Gray with black and iron nodules, soft consistancy								0	▽
16		SHALE							0	
17	Weathered shale, Gray with black and iron nodules, very weak strength, stiff consistancy			5/5					0	
18									0	
19									0	
20	Bottom of hole, refusal at 20' bgs									Set piezometer at 20' bgs with 10' screen

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-KC-2-2

Drilling Log

Project Name: NEMAHA-MAGELLAN	Project Number: 65383	Boring Number: B-30
Ground Elevation: N/A	Location: NEMAHA, NE	Page: 1 OF 2
Air Monitoring Equipment: PID MINI RAE 2000		Total Footage: 15'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	14'	1'	1	N/A

Drilling Company: RAZEK ENVIRONMENTAL	Driller(s): TONY POULTER, SCOTT FERRIS
Drilling Rig: GEOPROBE 6620	Type of Sampler: MACRO CORE W/ ACETATE SLEEVE
Date: 1/13/12 To: 1/13/12	Field Observer(s): TREVOR GUSTAFSON, TOM MORIARTY

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
		CL	NA						0	Start 1245
1	Clay, with silt, light Brown, medium to stiff consistency, low plasticity, damp			3.4/5					0	
2									0	
3									0	
4	Clay, some silt, Brown, medium consistency High plasticity, moist								0	
5		CH							0	
6									0	
7				5/5					0	
8									0	
9									0	
10									0	
11				5/5					0	
12									0	
13									0	
14										

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	NEMAHA-MAGELLAN
Project Number	65383
Boring Number	B-30
Page	2 OF 2
Date	1/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Weathered shale, gray with black and iron nodules, stiff consistency, very weak, moist medium plasticity	SHALE				B30/S1 1305			0	▽
	Bottom of hole, refusal at 15' bgs.									Set piezometer at 15' bgs with 10' screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

Drilling Log

Project Name	Project Number	Boring Number
NEMAHA-MAGELLAN	65383	B-31

Ground Elevation	Location	Page
N/A	NEMAHA, NE	1 OF 2

Air Monitoring Equipment	Total Footage
PID MINI RAE 2000	15'

Drilling Type	Hole Size	Overburden Footage	Bedrock Footage	No. of Samples	No. of Core Boxes
DIRECT-PUSH	2"	14.5'	0.5'	1	N/A

Drilling Company	Driller(s)
RAZEK ENVIRONMENTAL	TONY POULTER, SCOTT FERRIS

Drilling Rig	Type of Sampler
GEOPROBE 6620	MACRO CORE W/ ACETATE SLEEVE

Date	To	Field Observer(s)
1/13/12	1/13/12	TREVOR GUSTAFSON, TOM MORIARTY

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
	Clay, some silt, Brown, medium consistancy, low plasticity, damp	CL							0	start 1355
1									0	
2				3.5/5					0	
3									0	
4									0	
5	Clay, Gray with black and iron nodules, medium to soft consistancy, high plasticity, moist	CH							0	
6									0	
7				5/5					0	
8									0	
9									0	
10									0	
11	Clay, some silt, Brown with iron nodules, medium to stiff consistancy, medium plasticity, moist	CL							0	
12				5/5					2.60 2.20	
13									4.20	
14						B31/SS1 1355			2.00 9.30	

BZ=Breathing Zone BH=Bore Hole S=Sample

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051601 Form WCD-2-1

Drilling Log Continuation

Project Name	NEMAHA-MAGELLAN
Project Number	65383
Boring Number	B-31
Page	2 of 2
Date	1/13/12

Depth (feet)	Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	PID (ppm) BZ	PID (ppm) BH	PID (ppm) S	Remarks/ Water Levels
15	Weathered shale, gray with iron nodules, very weak	SHALE						0	22 0	
	Bottom of hole, refusal at 15' bgs									set piezometer at 15' bgs with 10' screen

BZ=Breathing Zone BH=Bore Hole S=Sample

Burns & McDonnell SINCE 1898

051601 Form WCD-KC-2-2

ATTACHMENT 3

Laboratory Analytical Reports

Soil

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

December 22, 2011

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60111998001	NEMAHA B-1 SS-1 0-1	Solid	12/12/11 16:12	12/14/11 08:17
60111998002	NEMAHA B-1 SS-2 1-2	Solid	12/12/11 16:15	12/14/11 08:17
60111998003	NEMAHA B-2 SS-1 5-6	Solid	12/12/11 16:47	12/14/11 08:17
60111998004	NEMAHA B-2 SS-2 23-24	Solid	12/12/11 17:07	12/14/11 08:17
60111998005	NEMAHA B-2 SS-3 24-25	Solid	12/12/11 17:10	12/14/11 08:17
60111998006	NEMAHA B-5 SS-1 13-14	Solid	12/13/11 09:50	12/14/11 08:17
60111998007	NEMAHA B-5 SS-2 18.5-19.5	Solid	12/13/11 10:00	12/14/11 08:17
60111998008	NEMAHA B-9 SS-1 2-3	Solid	12/13/11 10:27	12/14/11 08:17
60111998009	NEMAHA B-9 SS-2 19-20	Solid	12/13/11 10:50	12/14/11 08:17
60111998010	NEMAHA B-12 SS-1 1-2	Solid	12/13/11 11:17	12/14/11 08:17
60111998011	NEMAHA B-12 SS-2 14-15	Solid	12/13/11 11:35	12/14/11 08:17
60111998012	NEMAHA B-4 SS-1 0-1	Solid	12/13/11 12:10	12/14/11 08:17
60111998013	NEMAHA B-7 SS-1 0-1	Solid	12/13/11 12:32	12/14/11 08:17
60111998014	NEMAHA B-7 SS-2 19-20	Solid	12/13/11 13:05	12/14/11 08:17

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SAMPLE ANALYTE COUNT

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60111998001	NEMAHA B-1 SS-1 0-1	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998002	NEMAHA B-1 SS-2 1-2	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998003	NEMAHA B-2 SS-1 5-6	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998004	NEMAHA B-2 SS-2 23-24	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998005	NEMAHA B-2 SS-3 24-25	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998006	NEMAHA B-5 SS-1 13-14	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998007	NEMAHA B-5 SS-2 18.5-19.5	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998008	NEMAHA B-9 SS-1 2-3	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998009	NEMAHA B-9 SS-2 19-20	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998010	NEMAHA B-12 SS-1 1-2	OA2	SDR	9

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SAMPLE ANALYTE COUNT

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998011	**NEMAHA B-12 SS-2 14-15**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998012	**NEMAHA B-4 SS-1 0-1**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998013	**NEMAHA B-7 SS-1 0-1**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1
60111998014	**NEMAHA B-7 SS-2 19-20**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	10
		ASTM D2974-87	DWC	1

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-1 SS-1 0-1 **Lab ID: 60111998001** Collected: 12/12/11 16:12 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52	68334-30-5	
Fuel Oil	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52	68553-00-4	
Jet Fuel	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52	94114-58-6	
Kerosene	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52	8008-20-6	
Mineral Spirits	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52	8030-30-6	
Motor Oil	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 15:52		
Surrogates								
n-Tetracosane (S)	98	%	50-137	1	12/14/11 00:00	12/14/11 15:52	646-31-1	
p-Terphenyl (S)	95	%	41-129	1	12/14/11 00:00	12/14/11 15:52	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		12/14/11 10:04		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**11.0**	ug/kg	6.3	1		12/14/11 10:04	71-43-2	
Ethylbenzene	**24.4**	ug/kg	6.3	1		12/14/11 10:04	100-41-4	
n-Hexane	ND	ug/kg	6.3	1		12/14/11 10:04	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.3	1		12/14/11 10:04	1634-04-4	
Toluene	**124**	ug/kg	6.3	1		12/14/11 10:04	108-88-3	
Xylene (Total)	**116**	ug/kg	6.3	1		12/14/11 10:04	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%	68-129	1		12/14/11 10:04	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		12/14/11 10:04	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		12/14/11 10:04	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	77-131	1		12/14/11 10:04	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.2**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-1 SS-2 1-2 **Lab ID: 60111998002** Collected: 12/12/11 16:15 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04	68334-30-5	
Fuel Oil	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04	68553-00-4	
Jet Fuel	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04	94114-58-6	
Kerosene	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04	8008-20-6	
Mineral Spirits	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04	8030-30-6	
Motor Oil	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:04		
Surrogates								
n-Tetracosane (S)	96	%	50-137	1	12/14/11 00:00	12/14/11 16:04	646-31-1	
p-Terphenyl (S)	92	%	41-129	1	12/14/11 00:00	12/14/11 16:04	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		12/14/11 10:20		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.3	1		12/14/11 10:20	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		12/14/11 10:20	100-41-4	
n-Hexane	ND	ug/kg	6.3	1		12/14/11 10:20	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.3	1		12/14/11 10:20	1634-04-4	
Toluene	ND	ug/kg	6.3	1		12/14/11 10:20	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		12/14/11 10:20	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	105	%	68-129	1		12/14/11 10:20	1868-53-7	
Toluene-d8 (S)	105	%	81-121	1		12/14/11 10:20	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		12/14/11 10:20	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	77-131	1		12/14/11 10:20	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.8**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-2 SS-1 5-6 **Lab ID: 60111998003** Collected: 12/12/11 16:47 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15	68334-30-5	
Fuel Oil	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15	68553-00-4	
Jet Fuel	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15	94114-58-6	
Kerosene	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15	8008-20-6	
Mineral Spirits	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15	8030-30-6	
Motor Oil	ND	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15	64742-65-0	
Total Petroleum Hydrocarbons	**4100**	mg/kg	24.5	1	12/14/11 00:00	12/14/11 16:15		1e
Surrogates								
n-Tetracosane (S)	108	%	50-137	1	12/14/11 00:00	12/14/11 16:15	646-31-1	
p-Terphenyl (S)	119	%	41-129	1	12/14/11 00:00	12/14/11 16:15	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**1730**	mg/kg	129	100		12/14/11 12:22		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**8440**	ug/kg	647	100		12/14/11 12:22	71-43-2	
Ethylbenzene	**23700**	ug/kg	647	100		12/14/11 12:22	100-41-4	
n-Hexane	**10400**	ug/kg	647	100		12/14/11 12:22	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	647	100		12/14/11 12:22	1634-04-4	
Toluene	**137000**	ug/kg	3240	500		12/15/11 16:27	108-88-3	
Xylene (Total)	**162000**	ug/kg	3240	500		12/15/11 16:27	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	68-129	100		12/14/11 12:22	1868-53-7	
Toluene-d8 (S)	105	%	81-121	100		12/14/11 12:22	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-131	100		12/14/11 12:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	77-131	100		12/14/11 12:22	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**24.1**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-2 SS-2 23-24 **Lab ID: 60111998004** Collected: 12/12/11 17:07 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	**317**	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26	68334-30-5	
Fuel Oil	ND	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26	68553-00-4	
Jet Fuel	ND	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26	94114-58-6	
Kerosene	ND	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26	8008-20-6	
Mineral Spirits	ND	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26	8030-30-6	
Motor Oil	ND	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.5	1	12/14/11 00:00	12/14/11 16:26		
Surrogates								
n-Tetracosane (S)	98	%	50-137	1	12/14/11 00:00	12/14/11 16:26	646-31-1	
p-Terphenyl (S)	94	%	41-129	1	12/14/11 00:00	12/14/11 16:26	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**342**	mg/kg	59.5	50		12/14/11 12:37		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**839**	ug/kg	298	50		12/14/11 12:37	71-43-2	
Ethylbenzene	**3520**	ug/kg	298	50		12/14/11 12:37	100-41-4	
n-Hexane	**1210**	ug/kg	298	50		12/14/11 12:37	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	298	50		12/14/11 12:37	1634-04-4	
Toluene	**10900**	ug/kg	298	50		12/14/11 12:37	108-88-3	
Xylene (Total)	**19000**	ug/kg	298	50		12/14/11 12:37	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95	%	68-129	50		12/14/11 12:37	1868-53-7	
Toluene-d8 (S)	99	%	81-121	50		12/14/11 12:37	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	50		12/14/11 12:37	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	77-131	50		12/14/11 12:37	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.3**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-2 SS-3 24-25 **Lab ID: 60111998005** Collected: 12/12/11 17:10 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37	68334-30-5	
Fuel Oil	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37	68553-00-4	
Jet Fuel	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37	94114-58-6	
Kerosene	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37	8008-20-6	
Mineral Spirits	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37	8030-30-6	
Motor Oil	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.2	1	12/14/11 00:00	12/14/11 16:37		
Surrogates								
n-Tetracosane (S)	96	%	50-137	1	12/14/11 00:00	12/14/11 16:37	646-31-1	
p-Terphenyl (S)	92	%	41-129	1	12/14/11 00:00	12/14/11 16:37	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		12/14/11 10:35		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**14.6**	ug/kg	5.9	1		12/14/11 10:35	71-43-2	
Ethylbenzene	**7.2**	ug/kg	5.9	1		12/14/11 10:35	100-41-4	
n-Hexane	ND	ug/kg	5.9	1		12/14/11 10:35	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	5.9	1		12/14/11 10:35	1634-04-4	
Toluene	**66.3**	ug/kg	5.9	1		12/14/11 10:35	108-88-3	
Xylene (Total)	**38.8**	ug/kg	5.9	1		12/14/11 10:35	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%	68-129	1		12/14/11 10:35	1868-53-7	
Toluene-d8 (S)	99	%	81-121	1		12/14/11 10:35	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	1		12/14/11 10:35	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	77-131	1		12/14/11 10:35	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.2**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-5 SS-1 13-14 **Lab ID: 60111998006** Collected: 12/13/11 09:50 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	**233**	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11	68334-30-5	
Fuel Oil	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11	68553-00-4	
Jet Fuel	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11	94114-58-6	
Kerosene	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11	8008-20-6	
Mineral Spirits	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11	8030-30-6	
Motor Oil	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.2	1	12/14/11 00:00	12/14/11 17:11		
Surrogates								
n-Tetracosane (S)	98	%	50-137	1	12/14/11 00:00	12/14/11 17:11	646-31-1	
p-Terphenyl (S)	95	%	41-129	1	12/14/11 00:00	12/14/11 17:11	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**991**	mg/kg	62.3	50		12/14/11 12:52		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**4750**	ug/kg	311	50		12/14/11 12:52	71-43-2	
Ethylbenzene	**12500**	ug/kg	311	50		12/14/11 12:52	100-41-4	
n-Hexane	**5330**	ug/kg	311	50		12/14/11 12:52	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	311	50		12/14/11 12:52	1634-04-4	
Toluene	**75900**	ug/kg	1560	250		12/15/11 16:43	108-88-3	
Xylene (Total)	**92800**	ug/kg	1560	250		12/15/11 16:43	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%	68-129	50		12/14/11 12:52	1868-53-7	
Toluene-d8 (S)	100	%	81-121	50		12/14/11 12:52	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-131	50		12/14/11 12:52	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	77-131	50		12/14/11 12:52	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.8**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-5 SS-2 18.5-19.5 **Lab ID: 60111998007** Collected: 12/13/11 10:00 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23	68334-30-5	
Fuel Oil	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23	68553-00-4	
Jet Fuel	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23	94114-58-6	
Kerosene	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23	8008-20-6	
Mineral Spirits	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23	8030-30-6	
Motor Oil	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.0	1	12/14/11 00:00	12/14/11 17:23		
Surrogates								
n-Tetracosane (S)	98	%	50-137	1	12/14/11 00:00	12/14/11 17:23	646-31-1	
p-Terphenyl (S)	95	%	41-129	1	12/14/11 00:00	12/14/11 17:23	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**9.8**	mg/kg	1.2	1		12/14/11 10:50		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**176**	ug/kg	6.2	1		12/14/11 10:50	71-43-2	
Ethylbenzene	**180**	ug/kg	6.2	1		12/14/11 10:50	100-41-4	
n-Hexane	**58.6**	ug/kg	6.2	1		12/14/11 10:50	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.2	1		12/14/11 10:50	1634-04-4	
Toluene	**1410**	ug/kg	311	50		12/15/11 15:41	108-88-3	
Xylene (Total)	**885**	ug/kg	6.2	1		12/14/11 10:50	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100	%	68-129	1		12/14/11 10:50	1868-53-7	
Toluene-d8 (S)	100	%	81-121	1		12/14/11 10:50	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	1		12/14/11 10:50	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	77-131	1		12/14/11 10:50	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.6**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-9 SS-1 2-3 **Lab ID: 60111998008** Collected: 12/13/11 10:27 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34	68334-30-5	
Fuel Oil	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34	68553-00-4	
Jet Fuel	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34	94114-58-6	
Kerosene	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34	8008-20-6	
Mineral Spirits	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34	8030-30-6	
Motor Oil	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34	64742-65-0	
Total Petroleum Hydrocarbons	**120**	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:34		3e
Surrogates								
n-Tetracosane (S)	94	%	50-137	1	12/14/11 00:00	12/14/11 17:34	646-31-1	
p-Terphenyl (S)	92	%	41-129	1	12/14/11 00:00	12/14/11 17:34	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**4.3**	mg/kg	1.3	1		12/14/11 11:05		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**247**	ug/kg	6.3	1		12/14/11 11:05	71-43-2	
Ethylbenzene	**98.3**	ug/kg	6.3	1		12/14/11 11:05	100-41-4	
n-Hexane	**23.4**	ug/kg	6.3	1		12/14/11 11:05	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.3	1		12/14/11 11:05	1634-04-4	
Toluene	**4530**	ug/kg	311	50		12/15/11 15:57	108-88-3	
Xylene (Total)	**450**	ug/kg	6.3	1		12/14/11 11:05	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%	68-129	1		12/14/11 11:05	1868-53-7	
Toluene-d8 (S)	107	%	81-121	1		12/14/11 11:05	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		12/14/11 11:05	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	77-131	1		12/14/11 11:05	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.8**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-9 SS-2 19-20 **Lab ID: 60111998009** Collected: 12/13/11 10:50 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45	68334-30-5	
Fuel Oil	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45	68553-00-4	
Jet Fuel	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45	94114-58-6	
Kerosene	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45	8008-20-6	
Mineral Spirits	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45	8030-30-6	
Motor Oil	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.0	1	12/14/11 00:00	12/14/11 17:45		
Surrogates								
n-Tetracosane (S)	95	%	50-137	1	12/14/11 00:00	12/14/11 17:45	646-31-1	
p-Terphenyl (S)	93	%	41-129	1	12/14/11 00:00	12/14/11 17:45	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		12/14/11 11:21		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.1	1		12/14/11 11:21	71-43-2	
Ethylbenzene	**13.1**	ug/kg	6.1	1		12/14/11 11:21	100-41-4	
n-Hexane	ND	ug/kg	6.1	1		12/14/11 11:21	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.1	1		12/14/11 11:21	1634-04-4	
Toluene	**67.2**	ug/kg	6.1	1		12/14/11 11:21	108-88-3	
Xylene (Total)	**66.1**	ug/kg	6.1	1		12/14/11 11:21	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		12/14/11 11:21	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		12/14/11 11:21	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		12/14/11 11:21	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	77-131	1		12/14/11 11:21	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.3**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-12 SS-1 1-2 **Lab ID: 60111998010** Collected: 12/13/11 11:17 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57	68334-30-5	
Fuel Oil	ND	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57	68553-00-4	
Jet Fuel	ND	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57	94114-58-6	
Kerosene	ND	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57	8008-20-6	
Mineral Spirits	ND	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57	8030-30-6	
Motor Oil	ND	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57	64742-65-0	
Total Petroleum Hydrocarbons	**1660**	mg/kg	25.0	1	12/14/11 00:00	12/14/11 17:57		1e
Surrogates								
n-Tetracosane (S)	99	%	50-137	1	12/14/11 00:00	12/14/11 17:57	646-31-1	
p-Terphenyl (S)	99	%	41-129	1	12/14/11 00:00	12/14/11 17:57	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**2510**	mg/kg	319	250		12/15/11 16:58		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**3060**	ug/kg	319	50		12/14/11 13:07	71-43-2	
Ethylbenzene	**18600**	ug/kg	319	50		12/14/11 13:07	100-41-4	
n-Hexane	**4440**	ug/kg	319	50		12/14/11 13:07	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	319	50		12/14/11 13:07	1634-04-4	
Toluene	**92700**	ug/kg	1600	250		12/15/11 16:58	108-88-3	
Xylene (Total)	**169000**	ug/kg	1600	250		12/15/11 16:58	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%	68-129	50		12/14/11 13:07	1868-53-7	
Toluene-d8 (S)	110	%	81-121	50		12/14/11 13:07	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-131	50		12/14/11 13:07	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	77-131	50		12/14/11 13:07	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.8**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-12 SS-2 14-15 **Lab ID: 60111998011** Collected: 12/13/11 11:35 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08	68334-30-5	
Fuel Oil	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08	68553-00-4	
Jet Fuel	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08	94114-58-6	
Kerosene	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08	8008-20-6	
Mineral Spirits	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08	8030-30-6	
Motor Oil	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.4	1	12/14/11 00:00	12/14/11 18:08		
Surrogates								
n-Tetracosane (S)	94	%	50-137	1	12/14/11 00:00	12/14/11 18:08	646-31-1	
p-Terphenyl (S)	91	%	41-129	1	12/14/11 00:00	12/14/11 18:08	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		12/14/11 11:36		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		12/14/11 11:36	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		12/14/11 11:36	100-41-4	
n-Hexane	ND	ug/kg	6.4	1		12/14/11 11:36	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.4	1		12/14/11 11:36	1634-04-4	
Toluene	ND	ug/kg	6.4	1		12/14/11 11:36	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		12/14/11 11:36	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%	68-129	1		12/14/11 11:36	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		12/14/11 11:36	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		12/14/11 11:36	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	77-131	1		12/14/11 11:36	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.7**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-4 SS-1 0-1 **Lab ID: 60111998012** Collected: 12/13/11 12:10 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19	68334-30-5	
Fuel Oil	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19	68553-00-4	
Jet Fuel	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19	94114-58-6	
Kerosene	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19	8008-20-6	
Mineral Spirits	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19	8030-30-6	
Motor Oil	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.1	1	12/14/11 00:00	12/14/11 18:19		
Surrogates								
n-Tetracosane (S)	96	%	50-137	1	12/14/11 00:00	12/14/11 18:19	646-31-1	
p-Terphenyl (S)	91	%	41-129	1	12/14/11 00:00	12/14/11 18:19	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		12/14/11 11:51		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.3	1		12/14/11 11:51	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		12/14/11 11:51	100-41-4	
n-Hexane	ND	ug/kg	6.3	1		12/14/11 11:51	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	6.3	1		12/14/11 11:51	1634-04-4	
Toluene	ND	ug/kg	6.3	1		12/14/11 11:51	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		12/14/11 11:51	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98	%	68-129	1		12/14/11 11:51	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		12/14/11 11:51	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		12/14/11 11:51	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	77-131	1		12/14/11 11:51	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.4**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-7 SS-1 0-1 **Lab ID: 60111998013** Collected: 12/13/11 12:32 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30	68334-30-5	
Fuel Oil	ND	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30	68553-00-4	
Jet Fuel	ND	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30	94114-58-6	
Kerosene	ND	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30	8008-20-6	
Mineral Spirits	ND	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30	8030-30-6	
Motor Oil	ND	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30	64742-65-0	
Total Petroleum Hydrocarbons	**2660**	mg/kg	25.4	1	12/14/11 00:00	12/14/11 18:30		1e
Surrogates								
n-Tetracosane (S)	104	%	50-137	1	12/14/11 00:00	12/14/11 18:30	646-31-1	
p-Terphenyl (S)	107	%	41-129	1	12/14/11 00:00	12/14/11 18:30	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**2680**	mg/kg	321	250		12/15/11 17:13		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**4980**	ug/kg	321	50		12/14/11 13:23	71-43-2	
Ethylbenzene	**28100**	ug/kg	1610	250		12/15/11 17:13	100-41-4	
n-Hexane	**6160**	ug/kg	321	50		12/14/11 13:23	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	321	50		12/14/11 13:23	1634-04-4	
Toluene	**93900**	ug/kg	1610	250		12/15/11 17:13	108-88-3	
Xylene (Total)	**143000**	ug/kg	1610	250		12/15/11 17:13	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%	68-129	50		12/14/11 13:23	1868-53-7	
Toluene-d8 (S)	103	%	81-121	50		12/14/11 13:23	2037-26-5	
4-Bromofluorobenzene (S)	110	%	75-131	50		12/14/11 13:23	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	77-131	50		12/14/11 13:23	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.0**	%	0.50	1		12/14/11 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Sample: NEMAHA B-7 SS-2 19-20 **Lab ID: 60111998014** Collected: 12/13/11 13:05 Received: 12/14/11 08:17 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42	68334-30-5	
Fuel Oil	ND	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42	68553-00-4	
Jet Fuel	ND	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42	94114-58-6	
Kerosene	ND	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42	8008-20-6	
Mineral Spirits	ND	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42	8030-30-6	
Motor Oil	ND	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42	64742-65-0	
Total Petroleum Hydrocarbons	**29.0**	mg/kg	23.7	1	12/14/11 00:00	12/14/11 18:42		2e
Surrogates								
n-Tetracosane (S)	96	%	50-137	1	12/14/11 00:00	12/14/11 18:42	646-31-1	
p-Terphenyl (S)	93	%	41-129	1	12/14/11 00:00	12/14/11 18:42	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	59.0	50		12/15/11 16:12		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**551**	ug/kg	295	50		12/15/11 16:12	71-43-2	
Ethylbenzene	**392**	ug/kg	295	50		12/15/11 16:12	100-41-4	
n-Hexane	ND	ug/kg	295	50		12/15/11 16:12	110-54-3	
Methyl-tert-butyl ether	ND	ug/kg	295	50		12/15/11 16:12	1634-04-4	
Toluene	**2600**	ug/kg	295	50		12/15/11 16:12	108-88-3	
Xylene (Total)	**2140**	ug/kg	295	50		12/15/11 16:12	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101	%	68-129	50		12/15/11 16:12	1868-53-7	
Toluene-d8 (S)	98	%	81-121	50		12/15/11 16:12	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	50		12/15/11 16:12	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	77-131	50		12/15/11 16:12	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.8**	%	0.50	1		12/14/11 00:00		

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QUALITY CONTROL DATA

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

QC Batch: MSV/42467 Analysis Method: OA1
QC Batch Method: OA1 Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

METHOD BLANK: 926078 Matrix: Solid
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	12/14/11 09:49	

LABORATORY CONTROL SAMPLE: 926079

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	3.6	90	69-131	

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QUALITY CONTROL DATA

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

QC Batch: MSV/42466 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

METHOD BLANK: 926076 Matrix: Solid
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	12/14/11 09:49	
Ethylbenzene	ug/kg	ND	5.0	12/14/11 09:49	
Methyl-tert-butyl ether	ug/kg	ND	5.0	12/14/11 09:49	
n-Hexane	ug/kg	ND	5.0	12/14/11 09:49	
Toluene	ug/kg	ND	5.0	12/14/11 09:49	
Xylene (Total)	ug/kg	ND	5.0	12/14/11 09:49	
1,2-Dichloroethane-d4 (S)	%	94	77-131	12/14/11 09:49	
4-Bromofluorobenzene (S)	%	100	75-131	12/14/11 09:49	
Dibromofluoromethane (S)	%	96	68-129	12/14/11 09:49	
Toluene-d8 (S)	%	98	81-121	12/14/11 09:49	

LABORATORY CONTROL SAMPLE: 926077

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	90.5	90	84-119	
Ethylbenzene	ug/kg	100	100	100	80-120	
Methyl-tert-butyl ether	ug/kg	100	94.2	94	80-125	
n-Hexane	ug/kg	100	100	100	53-132	
Toluene	ug/kg	100	97.8	98	83-117	
Xylene (Total)	ug/kg	300	296	99	80-120	
1,2-Dichloroethane-d4 (S)	%			98	77-131	
4-Bromofluorobenzene (S)	%			99	75-131	
Dibromofluoromethane (S)	%			101	68-129	
Toluene-d8 (S)	%			100	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

QC Batch: OEXT/31477 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

METHOD BLANK: 926029 Matrix: Solid
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	18.8	12/14/11 15:07	
Fuel Oil	mg/kg	ND	18.8	12/14/11 15:07	
Jet Fuel	mg/kg	ND	18.8	12/14/11 15:07	
Kerosene	mg/kg	ND	18.8	12/14/11 15:07	
Mineral Spirits	mg/kg	ND	18.8	12/14/11 15:07	
Motor Oil	mg/kg	ND	18.8	12/14/11 15:07	
Total Petroleum Hydrocarbons	mg/kg	ND	18.8	12/14/11 15:07	
n-Tetracosane (S)	%	105	50-137	12/14/11 15:07	
p-Terphenyl (S)	%	102	41-129	12/14/11 15:07	

LABORATORY CONTROL SAMPLE: 926030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	496	474	96	66-138	
n-Tetracosane (S)	%			101	50-137	
p-Terphenyl (S)	%			97	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 926031 926032

Parameter	Units	60111998001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	629	626	607	626	96	100	56-154	3	27	
n-Tetracosane (S)	%						98	103	50-137			
p-Terphenyl (S)	%						97	100	41-129			

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QUALITY CONTROL DATA

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

QC Batch: PMST/6847 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

METHOD BLANK: 926044 Matrix: Solid
Associated Lab Samples: 60111998001, 60111998002, 60111998003, 60111998004, 60111998005, 60111998006, 60111998007, 60111998008, 60111998009, 60111998010, 60111998011, 60111998012, 60111998013, 60111998014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	12/14/11 00:00	

SAMPLE DUPLICATE: 926045

Parameter	Units	60111998001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.2	22.0	4	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/42466

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42467

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

2e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

3e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60111998001	NEMAHA B-1 SS-1 0-1	OA2	OEXT/31477	OA2	GCSV/11698
60111998002	NEMAHA B-1 SS-2 1-2	OA2	OEXT/31477	OA2	GCSV/11698
60111998003	NEMAHA B-2 SS-1 5-6	OA2	OEXT/31477	OA2	GCSV/11698
60111998004	NEMAHA B-2 SS-2 23-24	OA2	OEXT/31477	OA2	GCSV/11698
60111998005	NEMAHA B-2 SS-3 24-25	OA2	OEXT/31477	OA2	GCSV/11698
60111998006	NEMAHA B-5 SS-1 13-14	OA2	OEXT/31477	OA2	GCSV/11698
60111998007	NEMAHA B-5 SS-2 18.5-19.5	OA2	OEXT/31477	OA2	GCSV/11698
60111998008	NEMAHA B-9 SS-1 2-3	OA2	OEXT/31477	OA2	GCSV/11698
60111998009	NEMAHA B-9 SS-2 19-20	OA2	OEXT/31477	OA2	GCSV/11698
60111998010	NEMAHA B-12 SS-1 1-2	OA2	OEXT/31477	OA2	GCSV/11698
60111998011	NEMAHA B-12 SS-2 14-15	OA2	OEXT/31477	OA2	GCSV/11698
60111998012	NEMAHA B-4 SS-1 0-1	OA2	OEXT/31477	OA2	GCSV/11698
60111998013	NEMAHA B-7 SS-1 0-1	OA2	OEXT/31477	OA2	GCSV/11698
60111998014	NEMAHA B-7 SS-2 19-20	OA2	OEXT/31477	OA2	GCSV/11698
60111998001	NEMAHA B-1 SS-1 0-1	OA1	MSV/42467		
60111998002	NEMAHA B-1 SS-2 1-2	OA1	MSV/42467		
60111998003	NEMAHA B-2 SS-1 5-6	OA1	MSV/42467		
60111998004	NEMAHA B-2 SS-2 23-24	OA1	MSV/42467		
60111998005	NEMAHA B-2 SS-3 24-25	OA1	MSV/42467		
60111998006	NEMAHA B-5 SS-1 13-14	OA1	MSV/42467		
60111998007	NEMAHA B-5 SS-2 18.5-19.5	OA1	MSV/42467		
60111998008	NEMAHA B-9 SS-1 2-3	OA1	MSV/42467		
60111998009	NEMAHA B-9 SS-2 19-20	OA1	MSV/42467		
60111998010	NEMAHA B-12 SS-1 1-2	OA1	MSV/42467		
60111998011	NEMAHA B-12 SS-2 14-15	OA1	MSV/42467		
60111998012	NEMAHA B-4 SS-1 0-1	OA1	MSV/42467		
60111998013	NEMAHA B-7 SS-1 0-1	OA1	MSV/42467		
60111998014	NEMAHA B-7 SS-2 19-20	OA1	MSV/42467		
60111998001	NEMAHA B-1 SS-1 0-1	EPA 8260	MSV/42466		
60111998002	NEMAHA B-1 SS-2 1-2	EPA 8260	MSV/42466		
60111998003	NEMAHA B-2 SS-1 5-6	EPA 8260	MSV/42466		
60111998004	NEMAHA B-2 SS-2 23-24	EPA 8260	MSV/42466		
60111998005	NEMAHA B-2 SS-3 24-25	EPA 8260	MSV/42466		
60111998006	NEMAHA B-5 SS-1 13-14	EPA 8260	MSV/42466		
60111998007	NEMAHA B-5 SS-2 18.5-19.5	EPA 8260	MSV/42466		
60111998008	NEMAHA B-9 SS-1 2-3	EPA 8260	MSV/42466		
60111998009	NEMAHA B-9 SS-2 19-20	EPA 8260	MSV/42466		
60111998010	NEMAHA B-12 SS-1 1-2	EPA 8260	MSV/42466		
60111998011	NEMAHA B-12 SS-2 14-15	EPA 8260	MSV/42466		
60111998012	NEMAHA B-4 SS-1 0-1	EPA 8260	MSV/42466		
60111998013	NEMAHA B-7 SS-1 0-1	EPA 8260	MSV/42466		
60111998014	NEMAHA B-7 SS-2 19-20	EPA 8260	MSV/42466		
60111998001	NEMAHA B-1 SS-1 0-1	ASTM D2974-87	PMST/6847		
60111998002	NEMAHA B-1 SS-2 1-2	ASTM D2974-87	PMST/6847		
60111998003	NEMAHA B-2 SS-1 5-6	ASTM D2974-87	PMST/6847		
60111998004	NEMAHA B-2 SS-2 23-24	ASTM D2974-87	PMST/6847		
60111998005	NEMAHA B-2 SS-3 24-25	ASTM D2974-87	PMST/6847		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111998

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60111998006	NEMAHA B-5 SS-1 13-14	ASTM D2974-87	PMST/6847		
60111998007	NEMAHA B-5 SS-2 18.5-19.5	ASTM D2974-87	PMST/6847		
60111998008	NEMAHA B-9 SS-1 2-3	ASTM D2974-87	PMST/6847		
60111998009	NEMAHA B-9 SS-2 19-20	ASTM D2974-87	PMST/6847		
60111998010	NEMAHA B-12 SS-1 1-2	ASTM D2974-87	PMST/6847		
60111998011	NEMAHA B-12 SS-2 14-15	ASTM D2974-87	PMST/6847		
60111998012	NEMAHA B-4 SS-1 0-1	ASTM D2974-87	PMST/6847		
60111998013	NEMAHA B-7 SS-1 0-1	ASTM D2974-87	PMST/6847		
60111998014	NEMAHA B-7 SS-2 19-20	ASTM D2974-87	PMST/6847		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: TREVOR GUSTAFSON

Laboratory: PACE

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan-Nemaha

Sample Type

60111998

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX MTBE (OA-1)	Analysis: TEH (OA-2)					Remarks
Nemaha	B-1	SS-1			0	1	12/12/11	1612		X		2	X	X		2WGFU			001
	B-1	SS-2			1	2	12/12/11	1615		X		2	X	X					002
	B-2	SS-1			5	6	12/12/11	1647		X		2	X	X					003
	B-2	SS-2			23	24	12/12/11	1707		X		2	X	X					004
	B-2	SS-3			24	25	12/12/11	1710		X		2	X	X					005
	B-5	SS-1			13	14	12/13/11	0950		X		2	X	X					006
	B-5	SS-2			18.5	19.5	12/13/11	1000		X		2	X	X					007
	B-9	SS-1			2	3	12/13/11	1027		X		2	X	X					008
	B-9	SS-2			19	20	12/13/11	1050		X		2	X	X					009
	B-12	SS-1			1	2	12/13/11	1117		X		2	X	X					010
	B-12	SS-2			14	15	12/13/11	1135		X		2	X	X					011
	B-4	SS-1			0	1	12/13/11	1210		X		2	X	X					012
	B-7	SS-1			0	1	12/13/11	1232		X		2	X	X					013
	B-7	SS-2			19	20	12/13/11	1305		X		2	X	X					014

Sampler (signature): Kyle Perrin

Sampler (signature):

Special Instructions:

Relinquished By (signature): 1. Kyle Perrin — Date/Time 12/13/11 1600

Received By (signature): [signature] / Pace — Date/Time 12/13 1600

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 5.0

Relinquished By (signature): 2. [signature] / Pace — Date/Time 12/14/11 815

Received By (signature): [signature] — Date/Time 12-14 0817

Laboratory Comments:

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

Client Name: B & M Project # 60111998

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other ____

Tracking #: ____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/15/11
Proj. Name: 27

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Foam ☐ None ☐ Other ____

Thermometer Used: (T-191) T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 5.0

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: PV 12-14-11

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. 1Day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: SL		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐ Yes ☑ No	Initial when completed ____ Lot # of added preservative ____
Trip Blank present:	☐ Yes ☐ No ☑ N/A	15.
Pace Trip Blank lot # (if purchased): ____		
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☑ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: ____

Client Notification/ Resolution: Copy COC to Client? (Y) N Field Data Required? Y (N)

Person Contacted: Trevor Date/Time: ____

Comments/ Resolution: STDTAT

Project Manager Review: ____ Date: 12/13/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

January 19, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 12, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60113652001	B-3 SS-1 11.5-12.5	Solid	01/11/12 09:15	01/12/12 17:10
60113652002	B-6 SS-1 11-12	Solid	01/11/12 09:50	01/12/12 17:10
60113652003	B-8 SS-1 6-7	Solid	01/11/12 10:35	01/12/12 17:10
60113652004	B-8 SS-2 8.5-9.5	Solid	01/11/12 10:40	01/12/12 17:10
60113652005	B-10 SS-1 8.5-9.5	Solid	01/11/12 11:30	01/12/12 17:10
60113652006	B-11 SS-1 8.5-9.5	Solid	01/11/12 12:25	01/12/12 17:10
60113652007	B-13 SS-1 9-10	Solid	01/11/12 13:15	01/12/12 17:10
60113652008	B-14 SS-1 16-17	Solid	01/11/12 13:50	01/12/12 17:10
60113652009	B-14 SS-2 17-18	Solid	01/11/12 13:55	01/12/12 17:10
60113652010	B-15 SS-1 1-2	Solid	01/11/12 14:15	01/12/12 17:10
60113652011	B-15 SS-2 6-7	Solid	01/11/12 14:25	01/12/12 17:10
60113652012	B-16 SS-1 6-7	Solid	01/11/12 15:15	01/12/12 17:10
60113652013	B-17 SS-1 13-14	Solid	01/11/12 16:05	01/12/12 17:10
60113652014	B-18 SS-1 7.5-8.5	Solid	01/11/12 16:30	01/12/12 17:10
60113652015	B-19 SS-1 18-19	Solid	01/12/12 09:05	01/12/12 17:10
60113652016	B-20 SS-1 17-18	Solid	01/12/12 09:45	01/12/12 17:10
60113652017	B-21 SS-1 16.5-17.5	Solid	01/12/12 11:00	01/12/12 17:10
60113652018	B-22 SS-1 13-14	Solid	01/12/12 13:05	01/12/12 17:10
60113652019	B-23 SS-1 13-14	Solid	01/12/12 13:40	01/12/12 17:10
60113652020	B-24 SS-1 6-7	Solid	01/12/12 14:30	01/12/12 17:10
60113652021	B-25 SS-1 34-35	Solid	01/12/12 15:40	01/12/12 17:10
60113652022	TRIP BLANK	Solid	01/12/12 00:00	01/12/12 17:10

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60113652001	B-3 SS-1 11.5-12.5	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652002	B-6 SS-1 11-12	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652003	B-8 SS-1 6-7	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652004	B-8 SS-2 8.5-9.5	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652005	B-10 SS-1 8.5-9.5	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652006	B-11 SS-1 8.5-9.5	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652007	B-13 SS-1 9-10	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652008	B-14 SS-1 16-17	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652009	B-14 SS-2 17-18	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652010	B-15 SS-1 1-2	OA2	SDR	9

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652011	**B-15 SS-2 6-7**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652012	**B-16 SS-1 6-7**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652013	**B-17 SS-1 13-14**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652014	**B-18 SS-1 7.5-8.5**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652015	**B-19 SS-1 18-19**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652016	**B-20 SS-1 17-18**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652017	**B-21 SS-1 16.5-17.5**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652018	**B-22 SS-1 13-14**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652019	**B-23 SS-1 13-14**	OA2	SDR	9
		OA1	RAB	1

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652020	**B-24 SS-1 6-7**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1
60113652021	**B-25 SS-1 34-35**	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-3 SS-1 11.5-12.5 **Lab ID: 60113652001** Collected: 01/11/12 09:15 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54	68334-30-5	
Fuel Oil	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54	68553-00-4	
Jet Fuel	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54	94114-58-6	
Kerosene	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54	8008-20-6	
Mineral Spirits	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54	8030-30-6	
Motor Oil	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.2	1	01/13/12 00:00	01/13/12 20:54		
Surrogates								
n-Tetracosane (S)	106	%	50-137	1	01/13/12 00:00	01/13/12 20:54	646-31-1	
p-Terphenyl (S)	94	%	41-129	1	01/13/12 00:00	01/13/12 20:54	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**2.0**	mg/kg	1.3	1		01/13/12 10:29		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**81.7**	ug/kg	6.4	1		01/13/12 10:29	71-43-2	
Ethylbenzene	**7.8**	ug/kg	6.4	1		01/13/12 10:29	100-41-4	
n-Hexane	**10.6**	ug/kg	6.4	1		01/13/12 10:29	110-54-3	
Toluene	**205**	ug/kg	6.4	1		01/13/12 10:29	108-88-3	
Xylene (Total)	**332**	ug/kg	6.4	1		01/13/12 10:29	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97	%	68-129	1		01/13/12 10:29	1868-53-7	
Toluene-d8 (S)	99	%	81-121	1		01/13/12 10:29	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 10:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	77-131	1		01/13/12 10:29	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.0**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-6 SS-1 11-12 **Lab ID: 60113652002** Collected: 01/11/12 09:50 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06	68334-30-5	
Fuel Oil	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06	68553-00-4	
Jet Fuel	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06	94114-58-6	
Kerosene	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06	8008-20-6	
Mineral Spirits	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06	8030-30-6	
Motor Oil	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:06		
Surrogates								
n-Tetracosane (S)	107	%	50-137	1	01/13/12 00:00	01/13/12 21:06	646-31-1	
p-Terphenyl (S)	91	%	41-129	1	01/13/12 00:00	01/13/12 21:06	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 10:44		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.6	1		01/13/12 10:44	71-43-2	
Ethylbenzene	ND	ug/kg	6.6	1		01/13/12 10:44	100-41-4	
n-Hexane	ND	ug/kg	6.6	1		01/13/12 10:44	110-54-3	
Toluene	ND	ug/kg	6.6	1		01/13/12 10:44	108-88-3	
Xylene (Total)	ND	ug/kg	6.6	1		01/13/12 10:44	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%	68-129	1		01/13/12 10:44	1868-53-7	
Toluene-d8 (S)	102	%	81-121	1		01/13/12 10:44	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		01/13/12 10:44	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	77-131	1		01/13/12 10:44	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**24.6**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-8 SS-1 6-7 **Lab ID: 60113652003** Collected: 01/11/12 10:35 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17	68334-30-5	
Fuel Oil	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17	68553-00-4	
Jet Fuel	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17	94114-58-6	
Kerosene	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17	8008-20-6	
Mineral Spirits	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17	8030-30-6	
Motor Oil	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 21:17		
Surrogates								
n-Tetracosane (S)	101	%	50-137	1	01/13/12 00:00	01/13/12 21:17	646-31-1	
p-Terphenyl (S)	94	%	41-129	1	01/13/12 00:00	01/13/12 21:17	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**246**	mg/kg	125	100		01/18/12 15:02		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**1800**	ug/kg	624	100		01/18/12 15:02	71-43-2	
Ethylbenzene	**3190**	ug/kg	624	100		01/18/12 15:02	100-41-4	
n-Hexane	**1070**	ug/kg	624	100		01/18/12 15:02	110-54-3	
Toluene	**13400**	ug/kg	624	100		01/18/12 15:02	108-88-3	
Xylene (Total)	**16600**	ug/kg	624	100		01/18/12 15:02	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101	%	68-129	100		01/18/12 15:02	1868-53-7	
Toluene-d8 (S)	100	%	81-121	100		01/18/12 15:02	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-131	100		01/18/12 15:02	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	77-131	100		01/18/12 15:02	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.1**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-8 SS-2 8.5-9.5 **Lab ID: 60113652004** Collected: 01/11/12 10:40 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28	68334-30-5	
Fuel Oil	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28	68553-00-4	
Jet Fuel	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28	94114-58-6	
Kerosene	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28	8008-20-6	
Mineral Spirits	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28	8030-30-6	
Motor Oil	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.1	1	01/13/12 00:00	01/13/12 21:28		
Surrogates								
n-Tetracosane (S)	100	%	50-137	1	01/13/12 00:00	01/13/12 21:28	646-31-1	
p-Terphenyl (S)	91	%	41-129	1	01/13/12 00:00	01/13/12 21:28	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**3.3**	mg/kg	1.3	1		01/13/12 11:00		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**351**	ug/kg	6.4	1		01/13/12 11:00	71-43-2	
Ethylbenzene	**35.5**	ug/kg	6.4	1		01/13/12 11:00	100-41-4	
n-Hexane	**10.4**	ug/kg	6.4	1		01/13/12 11:00	110-54-3	
Toluene	**1430**	ug/kg	318	50		01/14/12 00:12	108-88-3	
Xylene (Total)	**442**	ug/kg	6.4	1		01/13/12 11:00	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		01/13/12 11:00	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		01/13/12 11:00	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 11:00	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	77-131	1		01/13/12 11:00	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.7**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-10 SS-1 8.5-9.5 **Lab ID: 60113652005** Collected: 01/11/12 11:30 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39	68334-30-5	
Fuel Oil	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39	68553-00-4	
Jet Fuel	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39	94114-58-6	
Kerosene	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39	8008-20-6	
Mineral Spirits	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39	8030-30-6	
Motor Oil	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.9	1	01/13/12 00:00	01/13/12 21:39		
Surrogates								
n-Tetracosane (S)	105	%	50-137	1	01/13/12 00:00	01/13/12 21:39	646-31-1	
p-Terphenyl (S)	96	%	41-129	1	01/13/12 00:00	01/13/12 21:39	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 11:15		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.3	1		01/13/12 11:15	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		01/13/12 11:15	100-41-4	
n-Hexane	ND	ug/kg	6.3	1		01/13/12 11:15	110-54-3	
Toluene	ND	ug/kg	6.3	1		01/13/12 11:15	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		01/13/12 11:15	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95	%	68-129	1		01/13/12 11:15	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		01/13/12 11:15	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		01/13/12 11:15	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	77-131	1		01/13/12 11:15	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.8**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-11 SS-1 8.5-9.5 **Lab ID: 60113652006** Collected: 01/11/12 12:25 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51	68334-30-5	
Fuel Oil	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51	68553-00-4	
Jet Fuel	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51	94114-58-6	
Kerosene	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51	8008-20-6	
Mineral Spirits	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51	8030-30-6	
Motor Oil	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.8	1	01/13/12 00:00	01/13/12 21:51		
Surrogates								
n-Tetracosane (S)	100	%	50-137	1	01/13/12 00:00	01/13/12 21:51	646-31-1	
p-Terphenyl (S)	89	%	41-129	1	01/13/12 00:00	01/13/12 21:51	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/13/12 11:30		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.1	1		01/13/12 11:30	71-43-2	
Ethylbenzene	ND	ug/kg	6.1	1		01/13/12 11:30	100-41-4	
n-Hexane	**12.9**	ug/kg	6.1	1		01/13/12 11:30	110-54-3	
Toluene	ND	ug/kg	6.1	1		01/13/12 11:30	108-88-3	
Xylene (Total)	ND	ug/kg	6.1	1		01/13/12 11:30	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95	%	68-129	1		01/13/12 11:30	1868-53-7	
Toluene-d8 (S)	96	%	81-121	1		01/13/12 11:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 11:30	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	77-131	1		01/13/12 11:30	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.9**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-13 SS-1 9-10 **Lab ID: 60113652007** Collected: 01/11/12 13:15 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02	68334-30-5	
Fuel Oil	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02	68553-00-4	
Jet Fuel	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02	94114-58-6	
Kerosene	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02	8008-20-6	
Mineral Spirits	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02	8030-30-6	
Motor Oil	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.3	1	01/13/12 00:00	01/13/12 22:02		
Surrogates								
n-Tetracosane (S)	106	%	50-137	1	01/13/12 00:00	01/13/12 22:02	646-31-1	
p-Terphenyl (S)	96	%	41-129	1	01/13/12 00:00	01/13/12 22:02	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/13/12 11:45		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.2	1		01/13/12 11:45	71-43-2	
Ethylbenzene	ND	ug/kg	6.2	1		01/13/12 11:45	100-41-4	
n-Hexane	ND	ug/kg	6.2	1		01/13/12 11:45	110-54-3	
Toluene	ND	ug/kg	6.2	1		01/13/12 11:45	108-88-3	
Xylene (Total)	ND	ug/kg	6.2	1		01/13/12 11:45	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		01/13/12 11:45	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		01/13/12 11:45	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	1		01/13/12 11:45	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	77-131	1		01/13/12 11:45	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.9**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-14 SS-1 16-17 **Lab ID: 60113652008** Collected: 01/11/12 13:50 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13	68334-30-5	
Fuel Oil	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13	68553-00-4	
Jet Fuel	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13	94114-58-6	
Kerosene	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13	8008-20-6	
Mineral Spirits	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13	8030-30-6	
Motor Oil	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13	64742-65-0	
Total Petroleum Hydrocarbons	**43.2**	mg/kg	22.7	1	01/13/12 00:00	01/13/12 22:13		2e
Surrogates								
n-Tetracosane (S)	102	%	50-137	1	01/13/12 00:00	01/13/12 22:13	646-31-1	
p-Terphenyl (S)	94	%	41-129	1	01/13/12 00:00	01/13/12 22:13	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**6.9**	mg/kg	1.2	1		01/13/12 12:01		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**58.4**	ug/kg	5.8	1		01/13/12 12:01	71-43-2	
Ethylbenzene	**76.9**	ug/kg	5.8	1		01/13/12 12:01	100-41-4	
n-Hexane	**6.4**	ug/kg	5.8	1		01/13/12 12:01	110-54-3	
Toluene	**358**	ug/kg	292	50		01/14/12 00:27	108-88-3	
Xylene (Total)	**477**	ug/kg	5.8	1		01/13/12 12:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		01/13/12 12:01	1868-53-7	
Toluene-d8 (S)	99	%	81-121	1		01/13/12 12:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		01/13/12 12:01	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	77-131	1		01/13/12 12:01	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**14.8**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-14 SS-2 17-18 **Lab ID: 60113652009** Collected: 01/11/12 13:55 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24	68334-30-5	
Fuel Oil	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24	68553-00-4	
Jet Fuel	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24	94114-58-6	
Kerosene	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24	8008-20-6	
Mineral Spirits	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24	8030-30-6	
Motor Oil	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 22:24		
Surrogates								
n-Tetracosane (S)	103	%	50-137	1	01/13/12 00:00	01/13/12 22:24	646-31-1	
p-Terphenyl (S)	90	%	41-129	1	01/13/12 00:00	01/13/12 22:24	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/13/12 12:16		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**6.2**	ug/kg	6.0	1		01/13/12 12:16	71-43-2	
Ethylbenzene	ND	ug/kg	6.0	1		01/13/12 12:16	100-41-4	
n-Hexane	ND	ug/kg	6.0	1		01/13/12 12:16	110-54-3	
Toluene	**40.9**	ug/kg	6.0	1		01/13/12 12:16	108-88-3	
Xylene (Total)	**30.1**	ug/kg	6.0	1		01/13/12 12:16	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%	68-129	1		01/13/12 12:16	1868-53-7	
Toluene-d8 (S)	103	%	81-121	1		01/13/12 12:16	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 12:16	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	77-131	1		01/13/12 12:16	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**16.2**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-15 SS-1 1-2 **Lab ID: 60113652010** Collected: 01/11/12 14:15 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36	68334-30-5	
Fuel Oil	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36	68553-00-4	
Jet Fuel	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36	94114-58-6	
Kerosene	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36	8008-20-6	
Mineral Spirits	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36	8030-30-6	
Motor Oil	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36	64742-65-0	
Total Petroleum Hydrocarbons	**2260**	mg/kg	24.6	1	01/13/12 00:00	01/13/12 22:36		1e
Surrogates								
n-Tetracosane (S)	107	%	50-137	1	01/13/12 00:00	01/13/12 22:36	646-31-1	
p-Terphenyl (S)	111	%	41-129	1	01/13/12 00:00	01/13/12 22:36	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**1160**	mg/kg	62.9	50		01/14/12 00:43		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**3840**	ug/kg	314	50		01/14/12 00:43	71-43-2	
Ethylbenzene	**13200**	ug/kg	314	50		01/14/12 00:43	100-41-4	
n-Hexane	**2470**	ug/kg	314	50		01/14/12 00:43	110-54-3	
Toluene	**8270**	ug/kg	1570	250		01/13/12 15:19	108-88-3	
Xylene (Total)	**17200**	ug/kg	1570	250		01/13/12 15:19	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	92	%	68-129	50		01/14/12 00:43	1868-53-7	
Toluene-d8 (S)	99	%	81-121	50		01/14/12 00:43	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-131	50		01/14/12 00:43	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	77-131	50		01/14/12 00:43	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**21.4**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-15 SS-2 6-7 **Lab ID: 60113652011** Collected: 01/11/12 14:25 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47	68334-30-5	
Fuel Oil	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47	68553-00-4	
Jet Fuel	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47	94114-58-6	
Kerosene	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47	8008-20-6	
Mineral Spirits	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47	8030-30-6	
Motor Oil	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.9	1	01/13/12 00:00	01/13/12 22:47		
Surrogates								
n-Tetracosane (S)	109	%	50-137	1	01/13/12 00:00	01/13/12 22:47	646-31-1	
p-Terphenyl (S)	94	%	41-129	1	01/13/12 00:00	01/13/12 22:47	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**9.3**	mg/kg	1.2	1		01/13/12 12:31		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**15.2**	ug/kg	6.2	1		01/19/12 09:57	71-43-2	
Ethylbenzene	ND	ug/kg	6.2	1		01/19/12 09:57	100-41-4	
n-Hexane	**14.6**	ug/kg	6.2	1		01/19/12 09:57	110-54-3	
Toluene	**17.3**	ug/kg	6.2	1		01/19/12 09:57	108-88-3	
Xylene (Total)	**155**	ug/kg	6.2	1		01/19/12 09:57	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%	68-129	1		01/19/12 09:57	1868-53-7	
Toluene-d8 (S)	99	%	81-121	1		01/19/12 09:57	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-131	1		01/19/12 09:57	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	77-131	1		01/19/12 09:57	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.6**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-16 SS-1 6-7 **Lab ID: 60113652012** Collected: 01/11/12 15:15 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55	68334-30-5	
Fuel Oil	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55	68553-00-4	
Jet Fuel	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55	94114-58-6	
Kerosene	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55	8008-20-6	
Mineral Spirits	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55	8030-30-6	
Motor Oil	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.6	1	01/13/12 00:00	01/13/12 17:55		
Surrogates								
n-Tetracosane (S)	106	%	50-137	1	01/13/12 00:00	01/13/12 17:55	646-31-1	
p-Terphenyl (S)	98	%	41-129	1	01/13/12 00:00	01/13/12 17:55	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 12:46		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		01/13/12 12:46	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		01/13/12 12:46	100-41-4	
n-Hexane	ND	ug/kg	6.4	1		01/13/12 12:46	110-54-3	
Toluene	ND	ug/kg	6.4	1		01/13/12 12:46	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		01/13/12 12:46	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	94	%	68-129	1		01/13/12 12:46	1868-53-7	
Toluene-d8 (S)	96	%	81-121	1		01/13/12 12:46	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		01/13/12 12:46	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	77-131	1		01/13/12 12:46	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.0**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-17 SS-1 13-14 **Lab ID: 60113652013** Collected: 01/11/12 16:05 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06	68334-30-5	
Fuel Oil	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06	68553-00-4	
Jet Fuel	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06	94114-58-6	
Kerosene	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06	8008-20-6	
Mineral Spirits	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06	8030-30-6	
Motor Oil	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.7	1	01/13/12 00:00	01/13/12 18:06		
Surrogates								
n-Tetracosane (S)	106	%	50-137	1	01/13/12 00:00	01/13/12 18:06	646-31-1	
p-Terphenyl (S)	98	%	41-129	1	01/13/12 00:00	01/13/12 18:06	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 13:01		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.5	1		01/13/12 13:01	71-43-2	
Ethylbenzene	ND	ug/kg	6.5	1		01/13/12 13:01	100-41-4	
n-Hexane	ND	ug/kg	6.5	1		01/13/12 13:01	110-54-3	
Toluene	ND	ug/kg	6.5	1		01/13/12 13:01	108-88-3	
Xylene (Total)	ND	ug/kg	6.5	1		01/13/12 13:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		01/13/12 13:01	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		01/13/12 13:01	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-131	1		01/13/12 13:01	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	77-131	1		01/13/12 13:01	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.0**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-18 SS-1 7.5-8.5 **Lab ID: 60113652014** Collected: 01/11/12 16:30 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17	68334-30-5	
Fuel Oil	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17	68553-00-4	
Jet Fuel	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17	94114-58-6	
Kerosene	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17	8008-20-6	
Mineral Spirits	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17	8030-30-6	
Motor Oil	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.9	1	01/13/12 00:00	01/13/12 18:17		
Surrogates								
n-Tetracosane (S)	105	%	50-137	1	01/13/12 00:00	01/13/12 18:17	646-31-1	
p-Terphenyl (S)	93	%	41-129	1	01/13/12 00:00	01/13/12 18:17	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 13:17		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.7	1		01/13/12 13:17	71-43-2	
Ethylbenzene	ND	ug/kg	6.7	1		01/13/12 13:17	100-41-4	
n-Hexane	ND	ug/kg	6.7	1		01/13/12 13:17	110-54-3	
Toluene	ND	ug/kg	6.7	1		01/13/12 13:17	108-88-3	
Xylene (Total)	ND	ug/kg	6.7	1		01/13/12 13:17	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95	%	68-129	1		01/13/12 13:17	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		01/13/12 13:17	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		01/13/12 13:17	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	77-131	1		01/13/12 13:17	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**26.1**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-19 SS-1 18-19 **Lab ID: 60113652015** Collected: 01/12/12 09:05 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28	68334-30-5	
Fuel Oil	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28	68553-00-4	
Jet Fuel	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28	94114-58-6	
Kerosene	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28	8008-20-6	
Mineral Spirits	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28	8030-30-6	
Motor Oil	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.3	1	01/13/12 00:00	01/13/12 18:28		
Surrogates								
n-Tetracosane (S)	106	%	50-137	1	01/13/12 00:00	01/13/12 18:28	646-31-1	
p-Terphenyl (S)	97	%	41-129	1	01/13/12 00:00	01/13/12 18:28	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/13/12 13:32		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.2	1		01/13/12 13:32	71-43-2	
Ethylbenzene	ND	ug/kg	6.2	1		01/13/12 13:32	100-41-4	
n-Hexane	ND	ug/kg	6.2	1		01/13/12 13:32	110-54-3	
Toluene	ND	ug/kg	6.2	1		01/13/12 13:32	108-88-3	
Xylene (Total)	ND	ug/kg	6.2	1		01/13/12 13:32	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%	68-129	1		01/13/12 13:32	1868-53-7	
Toluene-d8 (S)	101	%	81-121	1		01/13/12 13:32	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 13:32	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	77-131	1		01/13/12 13:32	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.2**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-20 SS-1 17-18 **Lab ID: 60113652016** Collected: 01/12/12 09:45 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40	68334-30-5	
Fuel Oil	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40	68553-00-4	
Jet Fuel	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40	94114-58-6	
Kerosene	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40	8008-20-6	
Mineral Spirits	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40	8030-30-6	
Motor Oil	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.4	1	01/13/12 00:00	01/13/12 18:40		
Surrogates								
n-Tetracosane (S)	111	%	50-137	1	01/13/12 00:00	01/13/12 18:40	646-31-1	
p-Terphenyl (S)	100	%	41-129	1	01/13/12 00:00	01/13/12 18:40	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/13/12 13:47		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.1	1		01/13/12 13:47	71-43-2	
Ethylbenzene	ND	ug/kg	6.1	1		01/13/12 13:47	100-41-4	
n-Hexane	**17.0**	ug/kg	6.1	1		01/13/12 13:47	110-54-3	
Toluene	ND	ug/kg	6.1	1		01/13/12 13:47	108-88-3	
Xylene (Total)	ND	ug/kg	6.1	1		01/13/12 13:47	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101	%	68-129	1		01/13/12 13:47	1868-53-7	
Toluene-d8 (S)	103	%	81-121	1		01/13/12 13:47	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 13:47	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	77-131	1		01/13/12 13:47	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.7**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-21 SS-1 16.5-17.5 **Lab ID: 60113652017** Collected: 01/12/12 11:00 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51	68334-30-5	
Fuel Oil	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51	68553-00-4	
Jet Fuel	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51	94114-58-6	
Kerosene	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51	8008-20-6	
Mineral Spirits	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51	8030-30-6	
Motor Oil	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.5	1	01/13/12 00:00	01/13/12 18:51		
Surrogates								
n-Tetracosane (S)	107	%	50-137	1	01/13/12 00:00	01/13/12 18:51	646-31-1	
p-Terphenyl (S)	96	%	41-129	1	01/13/12 00:00	01/13/12 18:51	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 14:02		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		01/13/12 14:02	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		01/13/12 14:02	100-41-4	
n-Hexane	ND	ug/kg	6.4	1		01/13/12 14:02	110-54-3	
Toluene	ND	ug/kg	6.4	1		01/13/12 14:02	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		01/13/12 14:02	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	94	%	68-129	1		01/13/12 14:02	1868-53-7	
Toluene-d8 (S)	96	%	81-121	1		01/13/12 14:02	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		01/13/12 14:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	77-131	1		01/13/12 14:02	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.2**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-22 SS-1 13-14 **Lab ID: 60113652018** Collected: 01/12/12 13:05 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02	68334-30-5	
Fuel Oil	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02	68553-00-4	
Jet Fuel	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02	94114-58-6	
Kerosene	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02	8008-20-6	
Mineral Spirits	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02	8030-30-6	
Motor Oil	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.1	1	01/13/12 00:00	01/13/12 19:02		
Surrogates								
n-Tetracosane (S)	103	%	50-137	1	01/13/12 00:00	01/13/12 19:02	646-31-1	
p-Terphenyl (S)	93	%	41-129	1	01/13/12 00:00	01/13/12 19:02	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 14:18		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		01/13/12 14:18	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		01/13/12 14:18	100-41-4	
n-Hexane	ND	ug/kg	6.4	1		01/13/12 14:18	110-54-3	
Toluene	ND	ug/kg	6.4	1		01/13/12 14:18	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		01/13/12 14:18	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95	%	68-129	1		01/13/12 14:18	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		01/13/12 14:18	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/13/12 14:18	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	77-131	1		01/13/12 14:18	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.8**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-23 SS-1 13-14 **Lab ID: 60113652019** Collected: 01/12/12 13:40 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13	68334-30-5	
Fuel Oil	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13	68553-00-4	
Jet Fuel	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13	94114-58-6	
Kerosene	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13	8008-20-6	
Mineral Spirits	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13	8030-30-6	
Motor Oil	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.1	1	01/13/12 00:00	01/13/12 19:13		
Surrogates								
n-Tetracosane (S)	107	%	50-137	1	01/13/12 00:00	01/13/12 19:13	646-31-1	
p-Terphenyl (S)	96	%	41-129	1	01/13/12 00:00	01/13/12 19:13	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 14:33		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.3	1		01/13/12 14:33	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		01/13/12 14:33	100-41-4	
n-Hexane	ND	ug/kg	6.3	1		01/13/12 14:33	110-54-3	
Toluene	ND	ug/kg	6.3	1		01/13/12 14:33	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		01/13/12 14:33	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%	68-129	1		01/13/12 14:33	1868-53-7	
Toluene-d8 (S)	101	%	81-121	1		01/13/12 14:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		01/13/12 14:33	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	77-131	1		01/13/12 14:33	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.5**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-24 SS-1 6-7 **Lab ID: 60113652020** Collected: 01/12/12 14:30 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24	68334-30-5	
Fuel Oil	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24	68553-00-4	
Jet Fuel	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24	94114-58-6	
Kerosene	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24	8008-20-6	
Mineral Spirits	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24	8030-30-6	
Motor Oil	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	21.9	1	01/13/12 00:00	01/13/12 19:24		
Surrogates								
n-Tetracosane (S)	106	%	50-137	1	01/13/12 00:00	01/13/12 19:24	646-31-1	
p-Terphenyl (S)	95	%	41-129	1	01/13/12 00:00	01/13/12 19:24	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/13/12 14:48		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.1	1		01/13/12 14:48	71-43-2	
Ethylbenzene	ND	ug/kg	6.1	1		01/13/12 14:48	100-41-4	
n-Hexane	ND	ug/kg	6.1	1		01/13/12 14:48	110-54-3	
Toluene	ND	ug/kg	6.1	1		01/13/12 14:48	108-88-3	
Xylene (Total)	ND	ug/kg	6.1	1		01/13/12 14:48	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100	%	68-129	1		01/13/12 14:48	1868-53-7	
Toluene-d8 (S)	100	%	81-121	1		01/13/12 14:48	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	1		01/13/12 14:48	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	77-131	1		01/13/12 14:48	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**19.2**	%	0.50	1		01/13/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Sample: B-25 SS-1 34-35 **Lab ID: 60113652021** Collected: 01/12/12 15:40 Received: 01/12/12 17:10 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36	68334-30-5	
Fuel Oil	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36	68553-00-4	
Jet Fuel	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36	94114-58-6	
Kerosene	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36	8008-20-6	
Mineral Spirits	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36	8030-30-6	
Motor Oil	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.1	1	01/13/12 00:00	01/13/12 19:36		
Surrogates								
n-Tetracosane (S)	107	%	50-137	1	01/13/12 00:00	01/13/12 19:36	646-31-1	
p-Terphenyl (S)	96	%	41-129	1	01/13/12 00:00	01/13/12 19:36	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/13/12 17:20		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.3	1		01/13/12 17:20	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		01/13/12 17:20	100-41-4	
n-Hexane	ND	ug/kg	6.3	1		01/13/12 17:20	110-54-3	
Toluene	ND	ug/kg	6.3	1		01/13/12 17:20	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		01/13/12 17:20	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		01/13/12 17:20	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		01/13/12 17:20	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-131	1		01/13/12 17:20	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	77-131	1		01/13/12 17:20	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.1**	%	0.50	1		01/13/12 00:00		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43061 Analysis Method: OA1
QC Batch Method: OA1 Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60113652001, 60113652002, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019

METHOD BLANK: 938748 Matrix: Solid
Associated Lab Samples: 60113652001, 60113652002, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	01/13/12 09:28	

METHOD BLANK: 939922 Matrix: Solid
Associated Lab Samples: 60113652001, 60113652002, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	01/13/12 20:53	

LABORATORY CONTROL SAMPLE: 938749

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	3.9	98	69-131	

LABORATORY CONTROL SAMPLE: 939923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	3.2	80	69-131	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43066
QC Batch Method: OA1
Analysis Method: OA1
Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60113652020, 60113652021

METHOD BLANK: 938848
Matrix: Solid
Associated Lab Samples: 60113652020, 60113652021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	01/13/12 09:28	

LABORATORY CONTROL SAMPLE: 938849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	3.9	98	69-131	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43121
QC Batch Method: OA1
Analysis Method: OA1
Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60113652003

METHOD BLANK: 940318
Matrix: Solid
Associated Lab Samples: 60113652003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	01/18/12 14:32	

LABORATORY CONTROL SAMPLE: 940319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	4.2	105	69-131	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43058 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60113652001, 60113652002, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020

METHOD BLANK: 938734 Matrix: Solid
Associated Lab Samples: 60113652001, 60113652002, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/13/12 09:28	
Ethylbenzene	ug/kg	ND	5.0	01/13/12 09:28	
n-Hexane	ug/kg	ND	5.0	01/13/12 09:28	
Toluene	ug/kg	ND	5.0	01/13/12 09:28	
Xylene (Total)	ug/kg	ND	5.0	01/13/12 09:28	
1,2-Dichloroethane-d4 (S)	%	99	77-131	01/13/12 09:28	
4-Bromofluorobenzene (S)	%	100	75-131	01/13/12 09:28	
Dibromofluoromethane (S)	%	94	68-129	01/13/12 09:28	
Toluene-d8 (S)	%	96	81-121	01/13/12 09:28	

METHOD BLANK: 940183 Matrix: Solid
Associated Lab Samples: 60113652001, 60113652002, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/13/12 20:53	
Ethylbenzene	ug/kg	ND	5.0	01/13/12 20:53	
n-Hexane	ug/kg	ND	5.0	01/13/12 20:53	
Toluene	ug/kg	ND	5.0	01/13/12 20:53	
Xylene (Total)	ug/kg	ND	5.0	01/13/12 20:53	
1,2-Dichloroethane-d4 (S)	%	97	77-131	01/13/12 20:53	
4-Bromofluorobenzene (S)	%	99	75-131	01/13/12 20:53	
Dibromofluoromethane (S)	%	93	68-129	01/13/12 20:53	
Toluene-d8 (S)	%	96	81-121	01/13/12 20:53	

LABORATORY CONTROL SAMPLE: 938735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	94.9	95	84-119	
Ethylbenzene	ug/kg	100	96.6	97	80-120	
n-Hexane	ug/kg	100	103	103	53-132	
Toluene	ug/kg	100	91.9	92	83-117	
Xylene (Total)	ug/kg	300	284	95	80-120	
1,2-Dichloroethane-d4 (S)	%			103	77-131	
4-Bromofluorobenzene (S)	%			100	75-131	
Dibromofluoromethane (S)	%			94	68-129	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

LABORATORY CONTROL SAMPLE: 938735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%			97	81-121	

LABORATORY CONTROL SAMPLE: 940184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	91.7	92	84-119	
Ethylbenzene	ug/kg	100	88.2	88	80-120	
n-Hexane	ug/kg	100	93.9	94	53-132	
Toluene	ug/kg	100	91.2	91	83-117	
Xylene (Total)	ug/kg	300	261	87	80-120	
1,2-Dichloroethane-d4 (S)	%			102	77-131	
4-Bromofluorobenzene (S)	%			99	75-131	
Dibromofluoromethane (S)	%			100	68-129	
Toluene-d8 (S)	%			103	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43065
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60113652021

METHOD BLANK: 938845
Matrix: Solid
Associated Lab Samples: 60113652021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/13/12 16:35	
Ethylbenzene	ug/kg	ND	5.0	01/13/12 16:35	
n-Hexane	ug/kg	ND	5.0	01/13/12 16:35	
Toluene	ug/kg	ND	5.0	01/13/12 16:35	
Xylene (Total)	ug/kg	ND	5.0	01/13/12 16:35	
1,2-Dichloroethane-d4 (S)	%	100	77-131	01/13/12 16:35	
4-Bromofluorobenzene (S)	%	100	75-131	01/13/12 16:35	
Dibromofluoromethane (S)	%	95	68-129	01/13/12 16:35	
Toluene-d8 (S)	%	98	81-121	01/13/12 16:35	

LABORATORY CONTROL SAMPLE: 938846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	100	100	84-119	
Ethylbenzene	ug/kg	100	100	100	80-120	
n-Hexane	ug/kg	100	105	105	53-132	
Toluene	ug/kg	100	96.2	96	83-117	
Xylene (Total)	ug/kg	300	293	98	80-120	
1,2-Dichloroethane-d4 (S)	%			103	77-131	
4-Bromofluorobenzene (S)	%			98	75-131	
Dibromofluoromethane (S)	%			96	68-129	
Toluene-d8 (S)	%			97	81-121	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43119
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60113652003

METHOD BLANK: 940240
Matrix: Solid
Associated Lab Samples: 60113652003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/18/12 14:32	
Ethylbenzene	ug/kg	ND	5.0	01/18/12 14:32	
n-Hexane	ug/kg	ND	5.0	01/18/12 14:32	
Toluene	ug/kg	ND	5.0	01/18/12 14:32	
Xylene (Total)	ug/kg	ND	5.0	01/18/12 14:32	
1,2-Dichloroethane-d4 (S)	%	101	77-131	01/18/12 14:32	
4-Bromofluorobenzene (S)	%	100	75-131	01/18/12 14:32	
Dibromofluoromethane (S)	%	100	68-129	01/18/12 14:32	
Toluene-d8 (S)	%	98	81-121	01/18/12 14:32	

LABORATORY CONTROL SAMPLE: 940241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	87.7	88	84-119	
Ethylbenzene	ug/kg	100	86.0	86	80-120	
n-Hexane	ug/kg	100	94.0	94	53-132	
Toluene	ug/kg	100	86.8	87	83-117	
Xylene (Total)	ug/kg	300	255	85	80-120	
1,2-Dichloroethane-d4 (S)	%			103	77-131	
4-Bromofluorobenzene (S)	%			101	75-131	
Dibromofluoromethane (S)	%			104	68-129	
Toluene-d8 (S)	%			102	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: MSV/43130
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60113652011

METHOD BLANK: 940478
Matrix: Solid
Associated Lab Samples: 60113652011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/19/12 09:12	
Ethylbenzene	ug/kg	ND	5.0	01/19/12 09:12	
n-Hexane	ug/kg	ND	5.0	01/19/12 09:12	
Toluene	ug/kg	ND	5.0	01/19/12 09:12	
Xylene (Total)	ug/kg	ND	5.0	01/19/12 09:12	
1,2-Dichloroethane-d4 (S)	%	109	77-131	01/19/12 09:12	
4-Bromofluorobenzene (S)	%	100	75-131	01/19/12 09:12	
Dibromofluoromethane (S)	%	105	68-129	01/19/12 09:12	
Toluene-d8 (S)	%	98	81-121	01/19/12 09:12	

LABORATORY CONTROL SAMPLE: 940479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	99.1	99	84-119	
Ethylbenzene	ug/kg	100	96.6	97	80-120	
n-Hexane	ug/kg	100	119	119	53-132	
Toluene	ug/kg	100	95.3	95	83-117	
Xylene (Total)	ug/kg	300	289	96	80-120	
1,2-Dichloroethane-d4 (S)	%			110	77-131	
4-Bromofluorobenzene (S)	%			100	75-131	
Dibromofluoromethane (S)	%			106	68-129	
Toluene-d8 (S)	%			99	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: OEXT/31738 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60113652001, 60113652002, 60113652003, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011

METHOD BLANK: 938719 Matrix: Solid
Associated Lab Samples: 60113652001, 60113652002, 60113652003, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	19.8	01/13/12 20:09	
Fuel Oil	mg/kg	ND	19.8	01/13/12 20:09	
Jet Fuel	mg/kg	ND	19.8	01/13/12 20:09	
Kerosene	mg/kg	ND	19.8	01/13/12 20:09	
Mineral Spirits	mg/kg	ND	19.8	01/13/12 20:09	
Motor Oil	mg/kg	ND	19.8	01/13/12 20:09	
Total Petroleum Hydrocarbons	mg/kg	ND	19.8	01/13/12 20:09	
n-Tetracosane (S)	%	112	50-137	01/13/12 20:09	
p-Terphenyl (S)	%	103	41-129	01/13/12 20:09	

LABORATORY CONTROL SAMPLE: 938720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	492	507	103	66-138	
n-Tetracosane (S)	%			105	50-137	
p-Terphenyl (S)	%			95	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 938721 938722

Parameter	Units	60113652001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	629	645	738	807	117	125	56-154	9	27	
n-Tetracosane (S)	%						106	107	50-137			
p-Terphenyl (S)	%						101	106	41-129			

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: OEXT/31739 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020, 60113652021

METHOD BLANK: 938724 Matrix: Solid
Associated Lab Samples: 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020, 60113652021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	19.8	01/13/12 17:10	
Fuel Oil	mg/kg	ND	19.8	01/13/12 17:10	
Jet Fuel	mg/kg	ND	19.8	01/13/12 17:10	
Kerosene	mg/kg	ND	19.8	01/13/12 17:10	
Mineral Spirits	mg/kg	ND	19.8	01/13/12 17:10	
Motor Oil	mg/kg	ND	19.8	01/13/12 17:10	
Total Petroleum Hydrocarbons	mg/kg	ND	19.8	01/13/12 17:10	
n-Tetracosane (S)	%	98	50-137	01/13/12 17:10	
p-Terphenyl (S)	%	95	41-129	01/13/12 17:10	

LABORATORY CONTROL SAMPLE: 938725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	496	509	103	66-138	
n-Tetracosane (S)	%			105	50-137	
p-Terphenyl (S)	%			101	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 938726 938727

Parameter	Units	60113652012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	599	613	664	633	111	103	56-154	5	27	
n-Tetracosane (S)	%						109	106	50-137			
p-Terphenyl (S)	%						105	102	41-129			

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: PMST/6916 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60113652001, 60113652002, 60113652003, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020

METHOD BLANK: 938767 Matrix: Solid
Associated Lab Samples: 60113652001, 60113652002, 60113652003, 60113652004, 60113652005, 60113652006, 60113652007, 60113652008, 60113652009, 60113652010, 60113652011, 60113652012, 60113652013, 60113652014, 60113652015, 60113652016, 60113652017, 60113652018, 60113652019, 60113652020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	01/13/12 00:00	

SAMPLE DUPLICATE: 938768

Parameter	Units	60113652001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.0	23.4	1	20	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

QC Batch: PMST/6917
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60113652021

METHOD BLANK: 938774
Matrix: Solid
Associated Lab Samples: 60113652021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	01/13/12 00:00	

SAMPLE DUPLICATE: 938775

Parameter	Units	60113652021 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	22.1	22.1	0	20	

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/43058

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43061

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43065

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43066

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43119

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43121

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

2e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60113652001	B-3 SS-1 11.5-12.5	OA2	OEXT/31738	OA2	GCSV/11820
60113652002	B-6 SS-1 11-12	OA2	OEXT/31738	OA2	GCSV/11820
60113652003	B-8 SS-1 6-7	OA2	OEXT/31738	OA2	GCSV/11820
60113652004	B-8 SS-2 8.5-9.5	OA2	OEXT/31738	OA2	GCSV/11820
60113652005	B-10 SS-1 8.5-9.5	OA2	OEXT/31738	OA2	GCSV/11820
60113652006	B-11 SS-1 8.5-9.5	OA2	OEXT/31738	OA2	GCSV/11820
60113652007	B-13 SS-1 9-10	OA2	OEXT/31738	OA2	GCSV/11820
60113652008	B-14 SS-1 16-17	OA2	OEXT/31738	OA2	GCSV/11820
60113652009	B-14 SS-2 17-18	OA2	OEXT/31738	OA2	GCSV/11820
60113652010	B-15 SS-1 1-2	OA2	OEXT/31738	OA2	GCSV/11820
60113652011	B-15 SS-2 6-7	OA2	OEXT/31738	OA2	GCSV/11820
60113652012	B-16 SS-1 6-7	OA2	OEXT/31739	OA2	GCSV/11819
60113652013	B-17 SS-1 13-14	OA2	OEXT/31739	OA2	GCSV/11819
60113652014	B-18 SS-1 7.5-8.5	OA2	OEXT/31739	OA2	GCSV/11819
60113652015	B-19 SS-1 18-19	OA2	OEXT/31739	OA2	GCSV/11819
60113652016	B-20 SS-1 17-18	OA2	OEXT/31739	OA2	GCSV/11819
60113652017	B-21 SS-1 16.5-17.5	OA2	OEXT/31739	OA2	GCSV/11819
60113652018	B-22 SS-1 13-14	OA2	OEXT/31739	OA2	GCSV/11819
60113652019	B-23 SS-1 13-14	OA2	OEXT/31739	OA2	GCSV/11819
60113652020	B-24 SS-1 6-7	OA2	OEXT/31739	OA2	GCSV/11819
60113652021	B-25 SS-1 34-35	OA2	OEXT/31739	OA2	GCSV/11819
60113652001	B-3 SS-1 11.5-12.5	OA1	MSV/43061		
60113652002	B-6 SS-1 11-12	OA1	MSV/43061		
60113652003	B-8 SS-1 6-7	OA1	MSV/43121		
60113652004	B-8 SS-2 8.5-9.5	OA1	MSV/43061		
60113652005	B-10 SS-1 8.5-9.5	OA1	MSV/43061		
60113652006	B-11 SS-1 8.5-9.5	OA1	MSV/43061		
60113652007	B-13 SS-1 9-10	OA1	MSV/43061		
60113652008	B-14 SS-1 16-17	OA1	MSV/43061		
60113652009	B-14 SS-2 17-18	OA1	MSV/43061		
60113652010	B-15 SS-1 1-2	OA1	MSV/43061		
60113652011	B-15 SS-2 6-7	OA1	MSV/43061		
60113652012	B-16 SS-1 6-7	OA1	MSV/43061		
60113652013	B-17 SS-1 13-14	OA1	MSV/43061		
60113652014	B-18 SS-1 7.5-8.5	OA1	MSV/43061		
60113652015	B-19 SS-1 18-19	OA1	MSV/43061		
60113652016	B-20 SS-1 17-18	OA1	MSV/43061		
60113652017	B-21 SS-1 16.5-17.5	OA1	MSV/43061		
60113652018	B-22 SS-1 13-14	OA1	MSV/43061		
60113652019	B-23 SS-1 13-14	OA1	MSV/43061		
60113652020	B-24 SS-1 6-7	OA1	MSV/43066		
60113652021	B-25 SS-1 34-35	OA1	MSV/43066		
60113652001	B-3 SS-1 11.5-12.5	EPA 8260	MSV/43058		
60113652002	B-6 SS-1 11-12	EPA 8260	MSV/43058		
60113652003	B-8 SS-1 6-7	EPA 8260	MSV/43119		

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE NEMAHA, NE M
Pace Project No.: 60113652

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60113652004	B-8 SS-2 8.5-9.5	EPA 8260	MSV/43058		
60113652005	B-10 SS-1 8.5-9.5	EPA 8260	MSV/43058		
60113652006	B-11 SS-1 8.5-9.5	EPA 8260	MSV/43058		
60113652007	B-13 SS-1 9-10	EPA 8260	MSV/43058		
60113652008	B-14 SS-1 16-17	EPA 8260	MSV/43058		
60113652009	B-14 SS-2 17-18	EPA 8260	MSV/43058		
60113652010	B-15 SS-1 1-2	EPA 8260	MSV/43058		
60113652011	B-15 SS-2 6-7	EPA 8260	MSV/43058		
60113652011	B-15 SS-2 6-7	EPA 8260	MSV/43130		
60113652012	B-16 SS-1 6-7	EPA 8260	MSV/43058		
60113652013	B-17 SS-1 13-14	EPA 8260	MSV/43058		
60113652014	B-18 SS-1 7.5-8.5	EPA 8260	MSV/43058		
60113652015	B-19 SS-1 18-19	EPA 8260	MSV/43058		
60113652016	B-20 SS-1 17-18	EPA 8260	MSV/43058		
60113652017	B-21 SS-1 16.5-17.5	EPA 8260	MSV/43058		
60113652018	B-22 SS-1 13-14	EPA 8260	MSV/43058		
60113652019	B-23 SS-1 13-14	EPA 8260	MSV/43058		
60113652020	B-24 SS-1 6-7	EPA 8260	MSV/43058		
60113652021	B-25 SS-1 34-35	EPA 8260	MSV/43065		
60113652001	B-3 SS-1 11.5-12.5	ASTM D2974-87	PMST/6916		
60113652002	B-6 SS-1 11-12	ASTM D2974-87	PMST/6916		
60113652003	B-8 SS-1 6-7	ASTM D2974-87	PMST/6916		
60113652004	B-8 SS-2 8.5-9.5	ASTM D2974-87	PMST/6916		
60113652005	B-10 SS-1 8.5-9.5	ASTM D2974-87	PMST/6916		
60113652006	B-11 SS-1 8.5-9.5	ASTM D2974-87	PMST/6916		
60113652007	B-13 SS-1 9-10	ASTM D2974-87	PMST/6916		
60113652008	B-14 SS-1 16-17	ASTM D2974-87	PMST/6916		
60113652009	B-14 SS-2 17-18	ASTM D2974-87	PMST/6916		
60113652010	B-15 SS-1 1-2	ASTM D2974-87	PMST/6916		
60113652011	B-15 SS-2 6-7	ASTM D2974-87	PMST/6916		
60113652012	B-16 SS-1 6-7	ASTM D2974-87	PMST/6916		
60113652013	B-17 SS-1 13-14	ASTM D2974-87	PMST/6916		
60113652014	B-18 SS-1 7.5-8.5	ASTM D2974-87	PMST/6916		
60113652015	B-19 SS-1 18-19	ASTM D2974-87	PMST/6916		
60113652016	B-20 SS-1 17-18	ASTM D2974-87	PMST/6916		
60113652017	B-21 SS-1 16.5-17.5	ASTM D2974-87	PMST/6916		
60113652018	B-22 SS-1 13-14	ASTM D2974-87	PMST/6916		
60113652019	B-23 SS-1 13-14	ASTM D2974-87	PMST/6916		
60113652020	B-24 SS-1 6-7	ASTM D2974-87	PMST/6916		
60113652021	B-25 SS-1 34-35	ASTM D2974-87	PMST/6917		

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Sample Condition Upon Receipt

Pace Analytical® www.pacelabs.com

Client Name: B & M Project # 60113652

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional	
Proj. Due Date:	
Proj. Name:	1/2

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: (T-191) T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.7

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: PVI-13-12

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: SL		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐ Yes ☑ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	(☑ Yes) ☐ No ~~☐ N/A~~	15. PVI-13-12
Pace Trip Blank lot # (if purchased): 1010113		
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☑ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) N Field Data Required? Y (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 1/18/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev 05, 19February2010

Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Nemaha, NE MP 110

Sample Type

60113652

Group or SWMU Name	Sample Point	Sample Designator	Sample Event Round	Sample Event Year	Sample Depth (in feet) From	Sample Depth (in feet) To	Sample Collected Date	Sample Collected Time	Matrix Liquid	Matrix Solid	Matrix Gas	Number of Containers	Analysis: BTEX n-Hexane (OA1)	Analysis: TPH (OA2)					Remarks
	B-3	SS-1			11.5	12.5	1/11/12	0915		X		2	X	X	2WGFU				001
	B-6	SS-1			11	12	1/11/12	0950		X		2	X	X					002
	B-8	SS-1			6	7	1/11/12	1035		X		2	X	X					003
	B-8	SS-2			8.5	9.5	1/11/12	1040		X		2	X	X					004
	B-10	SS-1			8.5	9.5	1/11/12	1130		X		2	X	X					005
	B-11	SS-1			8.5	9.5	1/11/12	1225		X		2	X	X					006
	B-13	SS-1			9	10	1/11/12	1315		X		2	X	X					007
	B-14	SS-1			16	17	1/11/12	1350		X		2	X	X					008
	B-14	SS-2			17	18	1/11/12	1355		X		2	X	X					009
	B-15	SS-1			1	2	1/11/12	1415		X		2	X	X					010
	B-15	SS-2			6	7	1/11/12	1425		X		2	X	X					011
	B-16	SS-1			6	7	1/11/12	1515		X		2	X	X					012
	B-17	SS-1			13	14	1/11/12	1605		X		2	X	X					013
	B-18	SS-1			7.5	8.5	1/11/12	1630		X		2	X	X					014

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions:

Relinquished By (signature): 1. [signature] Date/Time 1/12/12 1710

Received By (signature): [signature] Date/Time 1/12/12 1710

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 0.7

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company Nemaha, NE MP 110

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Sample Type			Number of Containers	Analysis						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX	n-Hexane (0A1)	TPH (0A2)				
	B-19	SS-1			18	19	1/12/12	0905		X		2	X	X		2VGFU			015
	B-20	SS-1			17	18	1/12/12	0945		X		2	X	X					016
	B-21	SS-1			16.5	17.5	1/12/12	1100		X		2	X	X					017
	B-22	SS-1			13	14	1/12/12	1305		X		2	X	X					018
	B-23	SS-1			13	14	1/12/12	1340		X		2	X	X					019
	B-24	SS-1			6	7	1/12/12	1430		X		2	X	X					020
	B-25	SS-1			34	35	1/12/12	1540		X		2	X	X					021
													2VGFU						022

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions:

Relinquished By (signature): 1. Date/Time 1/12/12 1710

Received By (signature): Date/Time 1/12/12 1710

Ice Present in Container: Yes ✓ No

Temperature Upon Receipt: 0.7

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

January 19, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 13, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60113732001	B-26 SS-1	Solid	01/13/12 09:05	01/13/12 17:00
60113732002	B-27 SS-1	Solid	01/13/12 09:55	01/13/12 17:00
60113732003	B-28 SS-1	Solid	01/13/12 10:40	01/13/12 17:00
60113732004	B-29 SS-1	Solid	01/13/12 11:55	01/13/12 17:00
60113732005	B-30 SS-1	Solid	01/13/12 13:05	01/13/12 17:00
60113732006	B-31 SS-1	Solid	01/13/12 13:55	01/13/12 17:00

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SAMPLE ANALYTE COUNT

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60113732001	B-26 SS-1	OA2	SDR	9
		OA1	JPF	1
		EPA 8260	JPF	9
		ASTM D2974-87	DWC	1
60113732002	B-27 SS-1	OA2	SDR	9
		OA1	JPF	1
		EPA 8260	JPF	9
		ASTM D2974-87	DWC	1
60113732003	B-28 SS-1	OA2	SDR	9
		OA1	JPF	1
		EPA 8260	JPF	9
		ASTM D2974-87	DWC	1
60113732004	B-29 SS-1	OA2	SDR	9
		OA1	JPF	1
		EPA 8260	JPF	9
		ASTM D2974-87	DWC	1
60113732005	B-30 SS-1	OA2	SDR	9
		OA1	JPF	1
		EPA 8260	JPF	9
		ASTM D2974-87	DWC	1
60113732006	B-31 SS-1	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	JPF, RAB	9
		ASTM D2974-87	DWC	1

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Sample: B-26 SS-1 **Lab ID: 60113732001** Collected: 01/13/12 09:05 Received: 01/13/12 17:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46	68334-30-5	
Fuel Oil	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46	68553-00-4	
Jet Fuel	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46	94114-58-6	
Kerosene	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46	8008-20-6	
Mineral Spirits	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46	8030-30-6	
Motor Oil	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.8	1	01/17/12 00:00	01/19/12 03:46		
Surrogates								
n-Tetracosane (S)	108	%	50-137	1	01/17/12 00:00	01/19/12 03:46	646-31-1	
p-Terphenyl (S)	95	%	41-129	1	01/17/12 00:00	01/19/12 03:46	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/17/12 16:12		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.6	1		01/17/12 16:12	71-43-2	
Ethylbenzene	ND	ug/kg	6.6	1		01/17/12 16:12	100-41-4	
n-Hexane	ND	ug/kg	6.6	1		01/17/12 16:12	110-54-3	
Toluene	ND	ug/kg	6.6	1		01/17/12 16:12	108-88-3	
Xylene (Total)	ND	ug/kg	6.6	1		01/17/12 16:12	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		01/17/12 16:12	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		01/17/12 16:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		01/17/12 16:12	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	77-131	1		01/17/12 16:12	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**24.2**	%	0.50	1		01/17/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Sample: B-27 SS-1 **Lab ID: 60113732002** Collected: 01/13/12 09:55 Received: 01/13/12 17:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58	68334-30-5	
Fuel Oil	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58	68553-00-4	
Jet Fuel	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58	94114-58-6	
Kerosene	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58	8008-20-6	
Mineral Spirits	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58	8030-30-6	
Motor Oil	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.0	1	01/17/12 00:00	01/19/12 03:58		
Surrogates								
n-Tetracosane (S)	116	%	50-137	1	01/17/12 00:00	01/19/12 03:58	646-31-1	
p-Terphenyl (S)	101	%	41-129	1	01/17/12 00:00	01/19/12 03:58	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/17/12 16:28		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.1	1		01/17/12 16:28	71-43-2	
Ethylbenzene	ND	ug/kg	6.1	1		01/17/12 16:28	100-41-4	
n-Hexane	ND	ug/kg	6.1	1		01/17/12 16:28	110-54-3	
Toluene	ND	ug/kg	6.1	1		01/17/12 16:28	108-88-3	
Xylene (Total)	ND	ug/kg	6.1	1		01/17/12 16:28	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	92	%	68-129	1		01/17/12 16:28	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		01/17/12 16:28	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	1		01/17/12 16:28	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	77-131	1		01/17/12 16:28	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974 87							
Percent Moisture	**20.1**	%	0.50	1		01/17/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Sample: B-28 SS-1 **Lab ID: 60113732003** Collected: 01/13/12 10:40 Received: 01/13/12 17:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09	68334-30-5	
Fuel Oil	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09	68553-00-4	
Jet Fuel	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09	94114-58-6	
Kerosene	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09	8008-20-6	
Mineral Spirits	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09	8030-30-6	
Motor Oil	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.4	1	01/17/12 00:00	01/19/12 04:09		
Surrogates								
n-Tetracosane (S)	118	%	50-137	1	01/17/12 00:00	01/19/12 04:09	646-31-1	
p-Terphenyl (S)	102	%	41-129	1	01/17/12 00:00	01/19/12 04:09	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/17/12 16:43		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.1	1		01/17/12 16:43	71-43-2	
Ethylbenzene	ND	ug/kg	6.1	1		01/17/12 16:43	100-41-4	
n-Hexane	ND	ug/kg	6.1	1		01/17/12 16:43	110-54-3	
Toluene	ND	ug/kg	6.1	1		01/17/12 16:43	108-88-3	
Xylene (Total)	ND	ug/kg	6.1	1		01/17/12 16:43	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	93	%	68-129	1		01/17/12 16:43	1868-53-7	
Toluene-d8 (S)	99	%	81-121	1		01/17/12 16:43	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		01/17/12 16:43	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	77-131	1		01/17/12 16:43	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**18.6**	%	0.50	1		01/17/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Sample: B-29 SS-1 **Lab ID: 60113732004** Collected: 01/13/12 11:55 Received: 01/13/12 17:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20	68334-30-5	
Fuel Oil	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20	68553-00-4	
Jet Fuel	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20	94114-58-6	
Kerosene	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20	8008-20-6	
Mineral Spirits	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20	8030-30-6	
Motor Oil	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.8	1	01/17/12 00:00	01/19/12 04:20		
Surrogates								
n-Tetracosane (S)	122	%	50-137	1	01/17/12 00:00	01/19/12 04:20	646-31-1	
p-Terphenyl (S)	100	%	41-129	1	01/17/12 00:00	01/19/12 04:20	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.2	1		01/17/12 16:59		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	5.9	1		01/17/12 16:59	71-43-2	
Ethylbenzene	ND	ug/kg	5.9	1		01/17/12 16:59	100-41-4	
n-Hexane	ND	ug/kg	5.9	1		01/17/12 16:59	110-54-3	
Toluene	ND	ug/kg	5.9	1		01/17/12 16:59	108-88-3	
Xylene (Total)	ND	ug/kg	5.9	1		01/17/12 16:59	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	93	%	68-129	1		01/17/12 16:59	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		01/17/12 16:59	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-131	1		01/17/12 16:59	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	77-131	1		01/17/12 16:59	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**17.3**	%	0.50	1		01/17/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Sample: B-30 SS-1 **Lab ID: 60113732005** Collected: 01/13/12 13:05 Received: 01/13/12 17:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31	68334-30-5	
Fuel Oil	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31	68553-00-4	
Jet Fuel	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31	94114-58-6	
Kerosene	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31	8008-20-6	
Mineral Spirits	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31	8030-30-6	
Motor Oil	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.5	1	01/17/12 00:00	01/19/12 04:31		
Surrogates								
n-Tetracosane (S)	117	%	50-137	1	01/17/12 00:00	01/19/12 04:31	646-31-1	
p-Terphenyl (S)	100	%	41-129	1	01/17/12 00:00	01/19/12 04:31	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		01/17/12 17:14		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		01/17/12 17:14	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		01/17/12 17:14	100-41-4	
n-Hexane	ND	ug/kg	6.4	1		01/17/12 17:14	110-54-3	
Toluene	ND	ug/kg	6.4	1		01/17/12 17:14	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		01/17/12 17:14	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	91	%	68-129	1		01/17/12 17:14	1868-53-7	
Toluene-d8 (S)	98	%	81-121	1		01/17/12 17:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-131	1		01/17/12 17:14	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	77-131	1		01/17/12 17:14	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.3**	%	0.50	1		01/17/12 00:00		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Sample: B-31 SS-1 **Lab ID: 60113732006** Collected: 01/13/12 13:55 Received: 01/13/12 17:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43	68334-30-5	
Fuel Oil	ND	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43	68553-00-4	
Jet Fuel	ND	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43	94114-58-6	
Kerosene	ND	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43	8008-20-6	
Mineral Spirits	ND	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43	8030-30-6	
Motor Oil	ND	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43	64742-65-0	
Total Petroleum Hydrocarbons	**29.8**	mg/kg	25.4	1	01/17/12 00:00	01/19/12 04:43		1e
Surrogates								
n-Tetracosane (S)	121	%	50-137	1	01/17/12 00:00	01/19/12 04:43	646-31-1	
p-Terphenyl (S)	100	%	41-129	1	01/17/12 00:00	01/19/12 04:43	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	**4.1**	mg/kg	1.3	1		01/19/12 09:42		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	**105**	ug/kg	6.4	1		01/19/12 09:42	71-43-2	
Ethylbenzene	**61.7**	ug/kg	6.4	1		01/19/12 09:42	100-41-4	
n-Hexane	**26.7**	ug/kg	6.4	1		01/19/12 09:42	110-54-3	
Toluene	**613**	ug/kg	313	50		01/17/12 17:30	108-88-3	
Xylene (Total)	**796**	ug/kg	6.4	1		01/19/12 09:42	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%	68-129	1		01/19/12 09:42	1868-53-7	
Toluene-d8 (S)	100	%	81-121	1		01/19/12 09:42	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-131	1		01/19/12 09:42	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	77-131	1		01/19/12 09:42	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.0**	%	0.50	1		01/17/12 00:00		

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

QC Batch: MSV/43124 Analysis Method: OA1
QC Batch Method: OA1 Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005

METHOD BLANK: 940361 Matrix: Solid
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	01/17/12 14:08	

LABORATORY CONTROL SAMPLE: 940362

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	4.6	116	69-131	

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

QC Batch: MSV/43129
QC Batch Method: OA1
Analysis Method: OA1
Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60113732006

METHOD BLANK: 940476
Matrix: Solid
Associated Lab Samples: 60113732006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	01/19/12 09:12	

LABORATORY CONTROL SAMPLE: 940477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	4.1	102	69-131	

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

QC Batch: MSV/43096 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005, 60113732006

METHOD BLANK: 939859 Matrix: Solid
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005, 60113732006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/17/12 14:08	
Ethylbenzene	ug/kg	ND	5.0	01/17/12 14:08	
n-Hexane	ug/kg	ND	5.0	01/17/12 14:08	
Toluene	ug/kg	ND	5.0	01/17/12 14:08	
Xylene (Total)	ug/kg	ND	5.0	01/17/12 14:08	
1,2-Dichloroethane-d4 (S)	%	91	77-131	01/17/12 14:08	
4-Bromofluorobenzene (S)	%	95	75-131	01/17/12 14:08	
Dibromofluoromethane (S)	%	98	68-129	01/17/12 14:08	
Toluene-d8 (S)	%	99	81-121	01/17/12 14:08	

LABORATORY CONTROL SAMPLE: 939860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	95.6	96	84-119	
Ethylbenzene	ug/kg	100	92.6	93	80-120	
n-Hexane	ug/kg	100	111	111	53-132	
Toluene	ug/kg	100	92.7	93	83-117	
Xylene (Total)	ug/kg	300	274	91	80-120	
1,2-Dichloroethane-d4 (S)	%			105	77-131	
4-Bromofluorobenzene (S)	%			104	75-131	
Dibromofluoromethane (S)	%			104	68-129	
Toluene-d8 (S)	%			100	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

QC Batch: MSV/43130
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60113732006

METHOD BLANK: 940478
Matrix: Solid
Associated Lab Samples: 60113732006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	01/19/12 09:12	
Ethylbenzene	ug/kg	ND	5.0	01/19/12 09:12	
n-Hexane	ug/kg	ND	5.0	01/19/12 09:12	
Xylene (Total)	ug/kg	ND	5.0	01/19/12 09:12	
1,2-Dichloroethane-d4 (S)	%	109	77-131	01/19/12 09:12	
4-Bromofluorobenzene (S)	%	100	75-131	01/19/12 09:12	
Dibromofluoromethane (S)	%	105	68-129	01/19/12 09:12	
Toluene-d8 (S)	%	98	81-121	01/19/12 09:12	

LABORATORY CONTROL SAMPLE: 940479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	99.1	99	84-119	
Ethylbenzene	ug/kg	100	96.6	97	80-120	
n-Hexane	ug/kg	100	119	119	53-132	
Xylene (Total)	ug/kg	300	289	96	80-120	
1,2-Dichloroethane-d4 (S)	%			110	77-131	
4-Bromofluorobenzene (S)	%			100	75-131	
Dibromofluoromethane (S)	%			106	68-129	
Toluene-d8 (S)	%			99	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

QC Batch: OEXT/31755 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005, 60113732006

METHOD BLANK: 939573 Matrix: Solid
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005, 60113732006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	19.6	01/19/12 01:09	
Fuel Oil	mg/kg	ND	19.6	01/19/12 01:09	
Jet Fuel	mg/kg	ND	19.6	01/19/12 01:09	
Kerosene	mg/kg	ND	19.6	01/19/12 01:09	
Mineral Spirits	mg/kg	ND	19.6	01/19/12 01:09	
Motor Oil	mg/kg	ND	19.6	01/19/12 01:09	
Total Petroleum Hydrocarbons	mg/kg	ND	19.6	01/19/12 01:09	
n-Tetracosane (S)	%	116	50-137	01/19/12 01:09	
p-Terphenyl (S)	%	101	41-129	01/19/12 01:09	

LABORATORY CONTROL SAMPLE: 939574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	489	554	113	66-138	
n-Tetracosane (S)	%			122	50-137	
p-Terphenyl (S)	%			110	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 939575 939576

Parameter	Units	60113706001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	593	598	662	635	112	106	56-154	4	27	
n-Tetracosane (S)	%						124	119	50-137			
p-Terphenyl (S)	%						110	105	41-129			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

QC Batch: PMST/6918 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005, 60113732006

METHOD BLANK: 939589 Matrix: Solid
Associated Lab Samples: 60113732001, 60113732002, 60113732003, 60113732004, 60113732005, 60113732006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	01/17/12 00:00	

SAMPLE DUPLICATE: 939590

Parameter	Units	60113673001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.9	18.4	3	20	

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QUALIFIERS

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/43096

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43124

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN NEMAHA MP 110
Pace Project No.: 60113732

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60113732001	B-26 SS-1	OA2	OEXT/31755	OA2	GCSV/11829
60113732002	B-27 SS-1	OA2	OEXT/31755	OA2	GCSV/11829
60113732003	B-28 SS-1	OA2	OEXT/31755	OA2	GCSV/11829
60113732004	B-29 SS-1	OA2	OEXT/31755	OA2	GCSV/11829
60113732005	B-30 SS-1	OA2	OEXT/31755	OA2	GCSV/11829
60113732006	B-31 SS-1	OA2	OEXT/31755	OA2	GCSV/11829
60113732001	B-26 SS-1	OA1	MSV/43124		
60113732002	B-27 SS-1	OA1	MSV/43124		
60113732003	B-28 SS-1	OA1	MSV/43124		
60113732004	B-29 SS-1	OA1	MSV/43124		
60113732005	B-30 SS-1	OA1	MSV/43124		
60113732006	B-31 SS-1	OA1	MSV/43129		
60113732001	B-26 SS-1	EPA 8260	MSV/43096		
60113732002	B-27 SS-1	EPA 8260	MSV/43096		
60113732003	B-28 SS-1	EPA 8260	MSV/43096		
60113732004	B-29 SS-1	EPA 8260	MSV/43096		
60113732005	B-30 SS-1	EPA 8260	MSV/43096		
60113732006	B-31 SS-1	EPA 8260	MSV/43096		
60113732006	B-31 SS-1	EPA 8260	MSV/43130		
60113732001	B-26 SS-1	ASTM D2974-87	PMST/6918		
60113732002	B-27 SS-1	ASTM D2974-87	PMST/6918		
60113732003	B-28 SS-1	ASTM D2974-87	PMST/6918		
60113732004	B-29 SS-1	ASTM D2974-87	PMST/6918		
60113732005	B-30 SS-1	ASTM D2974-87	PMST/6918		
60113732006	B-31 SS-1	ASTM D2974-87	PMST/6918		

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Sample Condition Upon Receipt

Pace Analytical
www.pacelabs.com

Client Name: BMCD Project # 60113732

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☒ No

Custody Seal on Cooler/Box Present: ☒ Yes ☐ No Seals intact: ☒ Yes ☐ No

Optional	
Proj. Due Date:	1/25
Proj. Name:	Magellan Nanna

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2-1

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: JS 1/13/12 1710

		Comments:
Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☒ Yes ☐ No ☐ N/A	
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: soil		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed n/a Lot # of added preservative _____
Trip Blank present:	☐ Yes ☐ No ☒ N/A	15.
Pace Trip Blank lot # (if purchased): n/a		
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y N Field Data Required? Y N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 1/16/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev 05, 19February2010

Burns & McDonnell
SINCE 1898
021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No: 60113732
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company Nemaha, NE MP 110

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (0A1)	Analysis: TPH (0A2)					Remarks
	B-26	SS-1			13	14	1/13/12	0905		X		2	X	X					2(NEW) 001
	B-27	SS-1			18	19	1/13/12	0955		X		2	X	X					002
	B-28	SS-1			6	7	1/13/12	1040		X		2	X	X					003
	B-29	SS-1			14	15	1/13/12	1155		X		2	X	X					004
	B-30	SS-1			14	15	1/13/12	1305		X		2	X	X					005
	B-31	SS-1			13.5	14.5	1/13/12	1355		X		2	X	X					006

Sampler (signature): [signature] Trevor Gustafson

Sampler (signature):

Special Instructions: Standard TAT

Relinquished By (signature): 1. [signature] Date/Time 1/13/12 1700

Received By (signature): [signature] Date/Time 1/13/12 1700

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 2.1

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Groundwater

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February 01, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 20, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114006001	B-6 GW-1	Water	01/19/12 10:55	01/20/12 07:50
60114006002	B-18 GW-1	Water	01/19/12 11:15	01/20/12 07:50
60114006003	B-17 GW-1	Water	01/19/12 11:30	01/20/12 07:50
60114006004	DUP-1 GW-1 011912	Water	01/19/12 00:00	01/20/12 07:50
60114006005	TRIP BLANK	Water	01/19/12 00:00	01/20/12 07:50
60114006006	B-10 GW-1	Water	01/19/12 11:55	01/20/12 07:50
60114006007	B-13 GW-1	Water	01/19/12 12:10	01/20/12 07:50
60114006008	B-11 GW-1	Water	01/19/12 12:30	01/20/12 07:50
60114006009	B-14 GW-1	Water	01/19/12 14:05	01/20/12 07:50
60114006010	B-21 GW-1	Water	01/19/12 14:35	01/20/12 07:50

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60114006001	B-6 GW-1	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006002	B-18 GW-1	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006003	B-17 GW-1	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006004	DUP-1 GW-1 011912	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006005	TRIP BLANK	EPA 8260/OA1	HNS	11
60114006006	B-10 GW-1	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006007	B-13 GW-1	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006008	B-11 GW-1	OA2	SDR	9
		EPA 8260/OA1	HNS	11
60114006009	B-14 GW-1	OA2	SDR	9
		EPA 8260/OA1	JTS	11
60114006010	B-21 GW-1	EPA 8260/OA1	JTS	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-6 GW-1 **Lab ID: 60114006001** Collected: 01/19/12 10:55 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:34		
Surrogates								
p-Terphenyl (S)	67	%	20-122	1	01/25/12 00:00	01/27/12 20:34	92-94-4	
n-Tetracosane (S)	65	%	30-122	1	01/25/12 00:00	01/27/12 20:34	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 03:37		
Benzene	ND	ug/L	1.0	1		01/27/12 03:37	71-43-2	
Toluene	**2.3**	ug/L	1.0	1		01/27/12 03:37	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 03:37	100-41-4	
Xylene (Total)	**6.4**	ug/L	3.0	1		01/27/12 03:37	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 03:37	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/27/12 03:37	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/27/12 03:37	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		01/27/12 03:37	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	82-119	1		01/27/12 03:37	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 03:37		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-18 GW-1 **Lab ID: 60114006002** Collected: 01/19/12 11:15 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:45		
Surrogates								
p-Terphenyl (S)	68	%	20-122	1	01/25/12 00:00	01/27/12 20:45	92-94-4	
n-Tetracosane (S)	67	%	30-122	1	01/25/12 00:00	01/27/12 20:45	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 22:20		
Benzene	ND	ug/L	1.0	1		01/27/12 22:20	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 22:20	108-88-3	B-
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 22:20	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 22:20	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 22:20	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		01/27/12 22:20	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/27/12 22:20	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		01/27/12 22:20	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	82-119	1		01/27/12 22:20	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 22:20		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-17 GW-1 **Lab ID: 60114006003** Collected: 01/19/12 11:30 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 20:57		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	01/25/12 00:00	01/27/12 20:57	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	01/25/12 00:00	01/27/12 20:57	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**0.66**	mg/L	0.50	1		01/30/12 17:23		
Benzene	**3.9**	ug/L	1.0	1		01/30/12 17:23	71-43-2	
Toluene	**34.8**	ug/L	1.0	1		01/30/12 17:23	108-88-3	
Ethylbenzene	**2.6**	ug/L	1.0	1		01/30/12 17:23	100-41-4	
Xylene (Total)	**96.0**	ug/L	3.0	1		01/30/12 17:23	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/30/12 17:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		01/30/12 17:23	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		01/30/12 17:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/30/12 17:23	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119	1		01/30/12 17:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/30/12 17:23		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: DUP-1 GW-1 011912 **Lab ID: 60114006004** Collected: 01/19/12 00:00 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:08		
Surrogates								
p-Terphenyl (S)	76	%	20-122	1	01/25/12 00:00	01/27/12 21:08	92-94-4	
n-Tetracosane (S)	73	%	30-122	1	01/25/12 00:00	01/27/12 21:08	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/30/12 17:39		
Benzene	**1.7**	ug/L	1.0	1		01/30/12 17:39	71-43-2	
Toluene	**12.9**	ug/L	1.0	1		01/30/12 17:39	108-88-3	
Ethylbenzene	**1.2**	ug/L	1.0	1		01/30/12 17:39	100-41-4	
Xylene (Total)	**46.2**	ug/L	3.0	1		01/30/12 17:39	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/30/12 17:39	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		01/30/12 17:39	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		01/30/12 17:39	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/30/12 17:39	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		01/30/12 17:39	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/30/12 17:39		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: TRIP BLANK **Lab ID: 60114006005** Collected: 01/19/12 00:00 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 23:08		
Benzene	ND	ug/L	1.0	1		01/27/12 23:08	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 23:08	108-88-3	B-
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 23:08	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 23:08	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 23:08	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		01/27/12 23:08	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/27/12 23:08	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/27/12 23:08	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		01/27/12 23:08	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 23:08		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-10 GW-1 **Lab ID: 60114006006** Collected: 01/19/12 11:55 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:19		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	01/25/12 00:00	01/27/12 21:19	92-94-4	
n-Tetracosane (S)	80	%	30-122	1	01/25/12 00:00	01/27/12 21:19	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 23:25		
Benzene	ND	ug/L	1.0	1		01/27/12 23:25	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 23:25	108-88-3	B-
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 23:25	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 23:25	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 23:25	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		01/27/12 23:25	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		01/27/12 23:25	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		01/27/12 23:25	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		01/27/12 23:25	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 23:25		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-13 GW-1 **Lab ID: 60114006007** Collected: 01/19/12 12:10 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:30		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	01/25/12 00:00	01/27/12 21:30	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	01/25/12 00:00	01/27/12 21:30	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/30/12 17:55		
Benzene	ND	ug/L	1.0	1		01/30/12 17:55	71-43-2	
Toluene	**1.0**	ug/L	1.0	1		01/30/12 17:55	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/30/12 17:55	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/30/12 17:55	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/30/12 17:55	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		01/30/12 17:55	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		01/30/12 17:55	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113	1		01/30/12 17:55	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	82-119	1		01/30/12 17:55	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/30/12 17:55		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-11 GW-1 **Lab ID: 60114006008** Collected: 01/19/12 12:30 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41	64742-65-0	
Total Petroleum Hydrocarbons	**0.70**	mg/L	0.40	1	01/25/12 00:00	01/27/12 21:41		1e
Surrogates								
p-Terphenyl (S)	86	%	20-122	1	01/25/12 00:00	01/27/12 21:41	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	01/25/12 00:00	01/27/12 21:41	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**1.4**	mg/L	0.50	1		01/30/12 18:11		
Benzene	ND	ug/L	1.0	1		01/30/12 18:11	71-43-2	
Toluene	**2.6**	ug/L	1.0	1		01/30/12 18:11	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/30/12 18:11	100-41-4	
Xylene (Total)	**18.2**	ug/L	3.0	1		01/30/12 18:11	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/30/12 18:11	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		01/30/12 18:11	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		01/30/12 18:11	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		01/30/12 18:11	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119	1		01/30/12 18:11	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/30/12 18:11		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-14 GW-1 **Lab ID: 60114006009** Collected: 01/19/12 14:05 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53	68334-30-5	
Fuel Oil	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53	68553-00-4	
Jet Fuel	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53	94114-58-6	
Kerosene	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53	8008-20-6	
Mineral Spirits	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53	8030-30-6	
Motor Oil	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.49	1	01/25/12 00:00	01/27/12 21:53		
Surrogates								
p-Terphenyl (S)	84	%	20-122	1	01/25/12 00:00	01/27/12 21:53	92-94-4	
n-Tetracosane (S)	87	%	30-122	1	01/25/12 00:00	01/27/12 21:53	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**1.9**	mg/L	0.50	1		01/27/12 16:03		
Benzene	**70.1**	ug/L	1.0	1		01/27/12 16:03	71-43-2	
Toluene	**133**	ug/L	1.0	1		01/27/12 16:03	108-88-3	
Ethylbenzene	**1.5**	ug/L	1.0	1		01/27/12 16:03	100-41-4	
Xylene (Total)	**104**	ug/L	3.0	1		01/27/12 16:03	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 16:03	110-54-3	
Surrogates								
Dibromofluoromethane (S)	110	%	86-112	1		01/27/12 16:03	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/27/12 16:03	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/27/12 16:03	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		01/27/12 16:03	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 16:03		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Sample: B-21 GW-1 **Lab ID: 60114006010** Collected: 01/19/12 14:35 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**1.1**	mg/L	0.50	1		01/27/12 16:21		
Benzene	**3.1**	ug/L	1.0	1		01/27/12 16:21	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 16:21	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 16:21	100-41-4	
Xylene (Total)	**56.3**	ug/L	3.0	1		01/27/12 16:21	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 16:21	110-54-3	
Surrogates								
Dibromofluoromethane (S)	107	%	86-112	1		01/27/12 16:21	1868-53-7	
Toluene-d8 (S)	95	%	90-110	1		01/27/12 16:21	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/27/12 16:21	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		01/27/12 16:21	17060-07-0	
Preservation pH	**5.0**		0.10	1		01/27/12 16:21		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

QC Batch: MSV/43279 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114006002, 60114006005, 60114006006

METHOD BLANK: 943601 Matrix: Water
Associated Lab Samples: 60114006002, 60114006005, 60114006006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/27/12 22:03	
Ethylbenzene	ug/L	ND	1.0	01/27/12 22:03	
Gasoline Range Organics	mg/L	ND	0.50	01/27/12 22:03	
n-Hexane	ug/L	ND	10.0	01/27/12 22:03	
Toluene	ug/L	1.3	1.0	01/27/12 22:03	
Xylene (Total)	ug/L	ND	3.0	01/27/12 22:03	
1,2-Dichloroethane-d4 (S)	%	101	82-119	01/27/12 22:03	
4-Bromofluorobenzene (S)	%	103	87-113	01/27/12 22:03	
Dibromofluoromethane (S)	%	103	86-112	01/27/12 22:03	
Toluene-d8 (S)	%	99	90-110	01/27/12 22:03	

LABORATORY CONTROL SAMPLE: 943602

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.2	91	82-117	
Ethylbenzene	ug/L	20	18.3	91	79-121	
Gasoline Range Organics	mg/L	4	4.2	105	63-139	
n-Hexane	ug/L	20	20.1	101	43-118	
Toluene	ug/L	20	18.5	92	80-120	
Xylene (Total)	ug/L	60	53.1	88	79-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			102	86-112	
Toluene-d8 (S)	%			99	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

QC Batch: MSV/43293
QC Batch Method: EPA 8260/OA1
Analysis Method: EPA 8260/OA1
Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114006001

METHOD BLANK: 944212
Matrix: Water
Associated Lab Samples: 60114006001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/27/12 03:20	
Ethylbenzene	ug/L	ND	1.0	01/27/12 03:20	
Gasoline Range Organics	mg/L	ND	0.50	01/27/12 03:20	
n-Hexane	ug/L	ND	10.0	01/27/12 03:20	
Toluene	ug/L	ND	1.0	01/27/12 03:20	
Xylene (Total)	ug/L	ND	3.0	01/27/12 03:20	
1,2-Dichloroethane-d4 (S)	%	96	82-119	01/27/12 03:20	
4-Bromofluorobenzene (S)	%	100	87-113	01/27/12 03:20	
Dibromofluoromethane (S)	%	98	86-112	01/27/12 03:20	
Toluene-d8 (S)	%	94	90-110	01/27/12 03:20	

LABORATORY CONTROL SAMPLE: 944213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.1	95	82-117	
Ethylbenzene	ug/L	20	18.7	93	79-121	
Gasoline Range Organics	mg/L	4	3.6	90	63-139	
n-Hexane	ug/L	20	19.0	95	43-118	
Toluene	ug/L	20	17.6	88	80-120	
Xylene (Total)	ug/L	60	55.1	92	79-120	
1,2-Dichloroethane-d4 (S)	%			85	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			96	86-112	
Toluene-d8 (S)	%			99	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

QC Batch: MSV/43297
QC Batch Method: EPA 8260/OA1
Analysis Method: EPA 8260/OA1
Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114006009, 60114006010

METHOD BLANK: 944229
Matrix: Water
Associated Lab Samples: 60114006009, 60114006010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/27/12 14:35	
Ethylbenzene	ug/L	ND	1.0	01/27/12 14:35	
Gasoline Range Organics	mg/L	ND	0.50	01/27/12 14:35	
n-Hexane	ug/L	ND	10.0	01/27/12 14:35	
Toluene	ug/L	ND	1.0	01/27/12 14:35	
Xylene (Total)	ug/L	ND	3.0	01/27/12 14:35	
1,2-Dichloroethane-d4 (S)	%	94	82-119	01/27/12 14:35	
4-Bromofluorobenzene (S)	%	101	87-113	01/27/12 14:35	
Dibromofluoromethane (S)	%	106	86-112	01/27/12 14:35	
Toluene-d8 (S)	%	98	90-110	01/27/12 14:35	

LABORATORY CONTROL SAMPLE: 944230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.6	88	82-117	
Ethylbenzene	ug/L	20	19.9	99	79-121	
Gasoline Range Organics	mg/L	4	4.8	121	63-139	
n-Hexane	ug/L	20	20.2	101	43-118	
Toluene	ug/L	20	18.3	91	80-120	
Xylene (Total)	ug/L	60	58.3	97	79-120	
1,2-Dichloroethane-d4 (S)	%			94	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			106	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

QC Batch: MSV/43336 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114006003, 60114006004, 60114006007, 60114006008

METHOD BLANK: 945360 Matrix: Water
Associated Lab Samples: 60114006003, 60114006004, 60114006007, 60114006008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/30/12 16:18	
Ethylbenzene	ug/L	ND	1.0	01/30/12 16:18	
Gasoline Range Organics	mg/L	ND	0.50	01/30/12 12:47	
n-Hexane	ug/L	ND	10.0	01/30/12 16:18	
Toluene	ug/L	ND	1.0	01/30/12 16:18	
Xylene (Total)	ug/L	ND	3.0	01/30/12 16:18	
1,2-Dichloroethane-d4 (S)	%	98	82-119	01/30/12 16:18	
4-Bromofluorobenzene (S)	%	102	87-113	01/30/12 16:18	
Dibromofluoromethane (S)	%	100	86-112	01/30/12 16:18	
Toluene-d8 (S)	%	102	90-110	01/30/12 16:18	

LABORATORY CONTROL SAMPLE: 945361

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.4	102	82-117	
Ethylbenzene	ug/L	20	20.0	100	79-121	
Gasoline Range Organics	mg/L	4	4.2	104	63-139	
n-Hexane	ug/L	20	17.3	87	43-118	
Toluene	ug/L	20	20.7	103	80-120	
Xylene (Total)	ug/L	60	60.6	101	79-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			101	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

QC Batch: OEXT/31847 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60114006001, 60114006002, 60114006003, 60114006004, 60114006006, 60114006007, 60114006008, 60114006009

METHOD BLANK: 942618 Matrix: Water
Associated Lab Samples: 60114006001, 60114006002, 60114006003, 60114006004, 60114006006, 60114006007, 60114006008, 60114006009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/27/12 20:00	
Fuel Oil	mg/L	ND	0.40	01/27/12 20:00	
Jet Fuel	mg/L	ND	0.40	01/27/12 20:00	
Kerosene	mg/L	ND	0.40	01/27/12 20:00	
Mineral Spirits	mg/L	ND	0.40	01/27/12 20:00	
Motor Oil	mg/L	ND	0.40	01/27/12 20:00	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/27/12 20:00	
n-Tetracosane (S)	%	88	30-122	01/27/12 20:00	
p-Terphenyl (S)	%	90	20-122	01/27/12 20:00	

LABORATORY CONTROL SAMPLE: 942619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	5.0	101	47-122	
n-Tetracosane (S)	%			95	30-122	
p-Terphenyl (S)	%			96	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31847

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43279

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43293

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43297

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43336

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

B- Analyte detected in method blank but was not detected in the associated samples.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114006

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114006001	B-6 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006002	B-18 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006003	B-17 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006004	DUP-1 GW-1 011912	OA2	OEXT/31847	OA2	GCSV/11865
60114006006	B-10 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006007	B-13 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006008	B-11 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006009	B-14 GW-1	OA2	OEXT/31847	OA2	GCSV/11865
60114006001	B-6 GW-1	EPA 8260/OA1	MSV/43293		
60114006002	B-18 GW-1	EPA 8260/OA1	MSV/43279		
60114006003	B-17 GW-1	EPA 8260/OA1	MSV/43336		
60114006004	DUP-1 GW-1 011912	EPA 8260/OA1	MSV/43336		
60114006005	TRIP BLANK	EPA 8260/OA1	MSV/43279		
60114006006	B-10 GW-1	EPA 8260/OA1	MSV/43279		
60114006007	B-13 GW-1	EPA 8260/OA1	MSV/43336		
60114006008	B-11 GW-1	EPA 8260/OA1	MSV/43336		
60114006009	B-14 GW-1	EPA 8260/OA1	MSV/43297		
60114006010	B-21 GW-1	EPA 8260/OA1	MSV/43297		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L.P. Nemaha, NE

Sample Type

60114006

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (OA1)	Analysis: TPH (OA2)					Remarks
	B-6	GW-1					1/19/12	1055	X			4	X	X					AGZU 3(DG9H) 001
	B-18	GW-1					1/19/12	1115	X			4	X	X					002
	B-17	GW-1					1/19/12	1130	X			4	X	X					003
	DUP-1	GW-1 011912					1/19/12	—	X			4	X	X					004
	Trip Blank						1/19/12	—	X			2	X						2(DG9H)TB 005
	B-10	GW-1					1/19/12	1155	X			4	X	X					AGZU 3(DG9H) 006
	B-13	GW-1					1/19/12	1210	X			4	X	X					007
	B-11	GW-1					1/19/12	1230	X			4	X	X					008
	B-14	GW-1					1/19/12	1405	X			4	X	X					009
	B-21	GW-1					1/19/12	1435	X			3	X						010

Sampler (signature):

Sampler (signature):

Special Instructions: Standard TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time	Ice Present in Container:	Temperature Upon Receipt:
1. [signature] 0750		[signature]	1/20/12 0750	Yes ☑ No ☐	3.4
Relinquished By (signature): 2.	Date/Time	Received By (signature):	Date/Time	Laboratory Comments:	

Sample Condition Upon Receipt

Pace Analytical
www.pacelabs.com

Client Name: Burns & Mac Project # 60114006

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☐ No

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Optional	
Proj. Due Date:	1/31/12
Proj. Name:	

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 3.4

Date and Initials of person examining contents: 1/20/12 [illegible]

Temperature should be above freezing to 6°C

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☑ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [illegible] Date: 1/20/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp. incorrect containers)

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February 03, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 25, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114161001	B-21 GW-1	Water	01/24/12 14:50	01/25/12 08:10
60114161002	B-25 GW-1	Water	01/24/12 15:15	01/25/12 08:10
60114161003	B-29 GW-1	Water	01/24/12 15:35	01/25/12 08:10
60114161004	B-28 GW-1	Water	01/24/12 15:55	01/25/12 08:10
60114161005	B-27 GW-1	Water	01/24/12 16:25	01/25/12 08:10
60114161006	B-24 GW-1	Water	01/24/12 16:50	01/25/12 08:10

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60114161001	B-21 GW-1	OA2	SDR	9
60114161002	B-25 GW-1	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60114161003	B-29 GW-1	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60114161004	B-28 GW-1	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60114161005	B-27 GW-1	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60114161006	B-24 GW-1	OA2	SDR	9
		EPA 8260/OA1	RNS	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Sample: B-21 GW-1 **Lab ID: 60114161001** Collected: 01/24/12 14:50 Received: 01/25/12 08:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method; OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:10		
Surrogates								
p-Terphenyl (S)	68	%	20-122	1	01/26/12 00:00	01/30/12 20:10	92-94-4	
n-Tetracosane (S)	67	%	30-122	1	01/26/12 00:00	01/30/12 20:10	646-31-1	

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Sample: B-25 GW-1 **Lab ID: 60114161002** Collected: 01/24/12 15:15 Received: 01/25/12 08:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:44		
Surrogates								
p-Terphenyl (S)	72	%	20-122	1	01/26/12 00:00	01/30/12 20:44	92-94-4	
n-Tetracosane (S)	72	%	30-122	1	01/26/12 00:00	01/30/12 20:44	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/01/12 02:31		
Benzene	ND	ug/L	1.0	1		02/01/12 02:31	71-43-2	
Toluene	ND	ug/L	1.0	1		02/01/12 02:31	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/01/12 02:31	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/01/12 02:31	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/01/12 02:31	110-54-3	L1
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		02/01/12 02:31	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		02/01/12 02:31	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-113	1		02/01/12 02:31	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		02/01/12 02:31	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/01/12 02:31		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Sample: B-29 GW-1 **Lab ID: 60114161003** Collected: 01/24/12 15:35 Received: 01/25/12 08:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 20:55		
Surrogates								
p-Terphenyl (S)	75	%	20-122	1	01/26/12 00:00	01/30/12 20:55	92-94-4	
n-Tetracosane (S)	72	%	30-122	1	01/26/12 00:00	01/30/12 20:55	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/01/12 02:46		
Benzene	ND	ug/L	1.0	1		02/01/12 02:46	71-43-2	
Toluene	ND	ug/L	1.0	1		02/01/12 02:46	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/01/12 02:46	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/01/12 02:46	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/01/12 02:46	110-54-3	L1
Surrogates								
Dibromofluoromethane (S)	97	%	86-112	1		02/01/12 02:46	1868-53-7	
Toluene-d8 (S)	107	%	90-110	1		02/01/12 02:46	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-113	1		02/01/12 02:46	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		02/01/12 02:46	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/01/12 02:46		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Sample: B-28 GW-1 **Lab ID: 60114161004** Collected: 01/24/12 15:55 Received: 01/25/12 08:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:06		
Surrogates								
p-Terphenyl (S)	78	%	20-122	1	01/26/12 00:00	01/30/12 21:06	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	01/26/12 00:00	01/30/12 21:06	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/01/12 03:01		
Benzene	ND	ug/L	1.0	1		02/01/12 03:01	71-43-2	
Toluene	ND	ug/L	1.0	1		02/01/12 03:01	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/01/12 03:01	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/01/12 03:01	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/01/12 03:01	110-54-3	L1
Surrogates								
Dibromofluoromethane (S)	108	%	86-112	1		02/01/12 03:01	1868-53-7	
Toluene-d8 (S)	110	%	90-110	1		02/01/12 03:01	2037-26-5	
4-Bromofluorobenzene (S)	89	%	87-113	1		02/01/12 03:01	460-00-4	
1,2-Dichloroethane-d4 (S)	83	%	82-119	1		02/01/12 03:01	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/01/12 03:01		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Sample: B-27 GW-1 **Lab ID: 60114161005** Collected: 01/24/12 16:25 Received: 01/25/12 08:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:17		
Surrogates								
p-Terphenyl (S)	64	%	20-122	1	01/26/12 00:00	01/30/12 21:17	92-94-4	
n-Tetracosane (S)	64	%	30-122	1	01/26/12 00:00	01/30/12 21:17	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/01/12 03:15		
Benzene	ND	ug/L	1.0	1		02/01/12 03:15	71-43-2	
Toluene	ND	ug/L	1.0	1		02/01/12 03:15	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/01/12 03:15	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/01/12 03:15	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/01/12 03:15	110-54-3	L1
Surrogates								
Dibromofluoromethane (S)	96	%	86-112	1		02/01/12 03:15	1868-53-7	
Toluene-d8 (S)	109	%	90-110	1		02/01/12 03:15	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		02/01/12 03:15	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	82-119	1		02/01/12 03:15	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/01/12 03:15		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Sample: B-24 GW-1 **Lab ID: 60114161006** Collected: 01/24/12 16:50 Received: 01/25/12 08:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28	64742-65-0	
Total Petroleum Hydrocarbons	**0.85**	mg/L	0.40	1	01/26/12 00:00	01/30/12 21:28		1e
Surrogates								
p-Terphenyl (S)	70	%	20-122	1	01/26/12 00:00	01/30/12 21:28	92-94-4	
n-Tetracosane (S)	72	%	30-122	1	01/26/12 00:00	01/30/12 21:28	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/01/12 03:30		
Benzene	ND	ug/L	1.0	1		02/01/12 03:30	71-43-2	
Toluene	ND	ug/L	1.0	1		02/01/12 03:30	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/01/12 03:30	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/01/12 03:30	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/01/12 03:30	110-54-3	L1
Surrogates								
Dibromofluoromethane (S)	96	%	86-112	1		02/01/12 03:30	1868-53-7	
Toluene-d8 (S)	90	%	90-110	1		02/01/12 03:30	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-113	1		02/01/12 03:30	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		02/01/12 03:30	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/01/12 03:30		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

QC Batch: MSV/43350 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114161002, 60114161003, 60114161004, 60114161005

METHOD BLANK: 945478 Matrix: Water
Associated Lab Samples: 60114161002, 60114161003, 60114161004, 60114161005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/31/12 23:03	
Ethylbenzene	ug/L	ND	1.0	01/31/12 23:03	
Gasoline Range Organics	mg/L	ND	0.50	01/31/12 23:03	
n-Hexane	ug/L	ND	10.0	01/31/12 23:03	
Toluene	ug/L	ND	1.0	01/31/12 23:03	
Xylene (Total)	ug/L	ND	3.0	01/31/12 23:03	
1,2-Dichloroethane-d4 (S)	%	81	82-119	01/31/12 23:03	S0
4-Bromofluorobenzene (S)	%	79	87-113	01/31/12 23:03	S0
Dibromofluoromethane (S)	%	101	86-112	01/31/12 23:03	
Toluene-d8 (S)	%	103	90-110	01/31/12 23:03	

LABORATORY CONTROL SAMPLE: 945479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.3	97	82-117	
Ethylbenzene	ug/L	20	20.6	103	79-121	
Gasoline Range Organics	mg/L	4	4.2	104	63-139	
n-Hexane	ug/L	20	27.3	136	43-118	L0
Toluene	ug/L	20	20.0	100	80-120	
Xylene (Total)	ug/L	60	58.9	98	79-120	
1,2-Dichloroethane-d4 (S)	%			104	82-119	
4-Bromofluorobenzene (S)	%			103	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			102	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

QC Batch: MSV/43351
QC Batch Method: EPA 8260/OA1
Analysis Method: EPA 8260/OA1
Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114161006

METHOD BLANK: 945522
Matrix: Water
Associated Lab Samples: 60114161006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/31/12 23:03	
Ethylbenzene	ug/L	ND	1.0	01/31/12 23:03	
Gasoline Range Organics	mg/L	ND	0.50	01/31/12 23:03	
n-Hexane	ug/L	ND	10.0	01/31/12 23:03	
Toluene	ug/L	ND	1.0	01/31/12 23:03	
Xylene (Total)	ug/L	ND	3.0	01/31/12 23:03	
1,2-Dichloroethane-d4 (S)	%	81	82-119	01/31/12 23:03	S0
4-Bromofluorobenzene (S)	%	79	87-113	01/31/12 23:03	S0
Dibromofluoromethane (S)	%	101	86-112	01/31/12 23:03	
Toluene-d8 (S)	%	103	90-110	01/31/12 23:03	

LABORATORY CONTROL SAMPLE: 945523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.3	97	82-117	
Ethylbenzene	ug/L	20	20.6	103	79-121	
Gasoline Range Organics	mg/L	4	4.2	104	63-139	
n-Hexane	ug/L	20	27.3	136	43-118	L0
Toluene	ug/L	20	20.0	100	80-120	
Xylene (Total)	ug/L	60	58.9	98	79-120	
1,2-Dichloroethane-d4 (S)	%			104	82-119	
4-Bromofluorobenzene (S)	%			103	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			102	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

QC Batch: OEXT/31859 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60114161001, 60114161002, 60114161003, 60114161004, 60114161005, 60114161006

METHOD BLANK: 943241 Matrix: Water
Associated Lab Samples: 60114161001, 60114161002, 60114161003, 60114161004, 60114161005, 60114161006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/30/12 18:41	
Fuel Oil	mg/L	ND	0.40	01/30/12 18:41	
Jet Fuel	mg/L	ND	0.40	01/30/12 18:41	
Kerosene	mg/L	ND	0.40	01/30/12 18:41	
Mineral Spirits	mg/L	ND	0.40	01/30/12 18:41	
Motor Oil	mg/L	ND	0.40	01/30/12 18:41	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/30/12 18:41	
n-Tetracosane (S)	%	75	30-122	01/30/12 18:41	
p-Terphenyl (S)	%	77	20-122	01/30/12 18:41	

LABORATORY CONTROL SAMPLE: 943242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.7	94	47-122	
n-Tetracosane (S)	%			76	30-122	
p-Terphenyl (S)	%			78	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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BATCH QUALIFIERS

Batch: OEXT/31859

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43350

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43351

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e	The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114161

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114161001	B-21 GW-1	OA2	OEXT/31859	OA2	GCSV/11870
60114161002	B-25 GW-1	OA2	OEXT/31859	OA2	GCSV/11870
60114161003	B-29 GW-1	OA2	OEXT/31859	OA2	GCSV/11870
60114161004	B-28 GW-1	OA2	OEXT/31859	OA2	GCSV/11870
60114161005	B-27 GW-1	OA2	OEXT/31859	OA2	GCSV/11870
60114161006	B-24 GW-1	OA2	OEXT/31859	OA2	GCSV/11870
60114161002	B-25 GW-1	EPA 8260/OA1	MSV/43350		
60114161003	B-29 GW-1	EPA 8260/OA1	MSV/43350		
60114161004	B-28 GW-1	EPA 8260/OA1	MSV/43350		
60114161005	B-27 GW-1	EPA 8260/OA1	MSV/43350		
60114161006	B-24 GW-1	EPA 8260/OA1	MSV/43351		

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Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L.P. Nemaha, NE

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis: BTEX, n-Hexane (OA1)	Analysis: TPH (OA2)						60114161 Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas									
	B-21	GW-1	1AG24				1/24/12	1450	X			1		X						001
	B-25	GW-1		3DG9H			1/24/12	1515	X			4	X	X						002
	B-29	GW-1					1/24/12	1535	X			4	X	X						003
	B-28	GW-1					1/24/12	1555	X			4	X	X						004
	B-27	GW-1					1/24/12	1625	X			4	X	X						005
	B-24	GW-1					1/24/12	1650	X			4	X	X						006

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: Standard TAT

Relinquished By (signature) 1. Date/Time 1/24/12 1945
Received By (signature): Date/Time 1-25-12 0810

Relinquished By (signature) 2. Date/Time 1/25/12 0810
Received By (signature): Date/Time

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 3.0

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: B & M Project # 60112446

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional	
Proj. Due Date:	12/20
Proj. Name:	

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: (T-191) / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.3

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: AV 12-20-11

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. Same Day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC: -Includes date/time/ID/analyses Matrix: WT	☑ Yes ☐ No ☐ N/A	13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☐ Yes ☑ No ☐ N/A	15.
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mee for (AKB) Date: 12/20/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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February 13, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60115034001	B-19	Water	02/08/12 14:30	02/09/12 08:06
60115034002	B-15	Water	02/08/12 15:00	02/09/12 08:06

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60115034001	B-19	OA2	SDR	9
		EPA 8260/OA1	JPF	11
60115034002	B-15	OA2	SDR	9
		EPA 8260/OA1	JPF	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Sample: B-19 **Lab ID: 60115034001** Collected: 02/08/12 14:30 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03	64742-65-0	
Total Petroleum Hydrocarbons	**1.4**	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:03		1e
Surrogates								
p-Terphenyl (S)	38	%	20-122	1	02/09/12 00:00	02/09/12 21:03	92-94-4	
n-Tetracosane (S)	34	%	30-122	1	02/09/12 00:00	02/09/12 21:03	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 11:47		
Benzene	ND	ug/L	1.0	1		02/10/12 11:47	71-43-2	
Toluene	**10.1**	ug/L	1.0	1		02/10/12 11:47	108-88-3	
Ethylbenzene	**2.2**	ug/L	1.0	1		02/10/12 11:47	100-41-4	
Xylene (Total)	**21.8**	ug/L	3.0	1		02/10/12 11:47	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 11:47	110-54-3	
Surrogates								
Dibromofluoromethane (S)	109	%	86-112	1		02/10/12 11:47	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		02/10/12 11:47	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		02/10/12 11:47	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		02/10/12 11:47	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 11:47		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Sample: B-15 **Lab ID: 60115034002** Collected: 02/08/12 15:00 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14	64742-65-0	
Total Petroleum Hydrocarbons	**9.4**	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:14		1e
Surrogates								
p-Terphenyl (S)	90	%	20-122	1	02/09/12 00:00	02/09/12 21:14	92-94-4	
n-Tetracosane (S)	88	%	30-122	1	02/09/12 00:00	02/09/12 21:14	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**22.3**	mg/L	5.0	10		02/10/12 08:23		
Benzene	**1600**	ug/L	10.0	10		02/10/12 08:23	71-43-2	
Toluene	**4540**	ug/L	50.0	50		02/10/12 12:04	108-88-3	
Ethylbenzene	**24.3**	ug/L	10.0	10		02/10/12 08:23	100-41-4	
Xylene (Total)	**1940**	ug/L	30.0	10		02/10/12 08:23	1330-20-7	
n-Hexane	ND	ug/L	100	10		02/10/12 08:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	10		02/10/12 08:23	1868-53-7	
Toluene-d8 (S)	97	%	90-110	10		02/10/12 08:23	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	10		02/10/12 08:23	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	10		02/10/12 08:23	17060-07-0	
Preservation pH	**1.0**		0.10	10		02/10/12 08:23		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

QC Batch: MSV/43535
QC Batch Method: EPA 8260/OA1
Analysis Method: EPA 8260/OA1
Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60115034002

METHOD BLANK: 949554
Matrix: Water
Associated Lab Samples: 60115034002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	02/10/12 01:54	
Ethylbenzene	ug/L	ND	1.0	02/10/12 01:54	
Gasoline Range Organics	mg/L	ND	0.50	02/10/12 01:54	
n-Hexane	ug/L	ND	10.0	02/10/12 01:54	
Xylene (Total)	ug/L	ND	3.0	02/10/12 01:54	
1,2-Dichloroethane-d4 (S)	%	100	82-119	02/10/12 01:54	
4-Bromofluorobenzene (S)	%	99	87-113	02/10/12 01:54	
Dibromofluoromethane (S)	%	102	86-112	02/10/12 01:54	
Toluene-d8 (S)	%	99	90-110	02/10/12 01:54	

LABORATORY CONTROL SAMPLE: 949555

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.2	96	82-117	
Ethylbenzene	ug/L	20	19.3	96	79-121	
Gasoline Range Organics	mg/L	4	3.9	97	63-139	
n-Hexane	ug/L	20	16.6	83	43-118	
Xylene (Total)	ug/L	60	58.2	97	79-120	
1,2-Dichloroethane-d4 (S)	%			107	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			99	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

QC Batch: MSV/43549 | Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 | Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60115034001, 60115034002

METHOD BLANK: 949892 | Matrix: Water
Associated Lab Samples: 60115034001, 60115034002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	02/10/12 10:55	
Ethylbenzene	ug/L	ND	1.0	02/10/12 10:55	
Gasoline Range Organics	mg/L	ND	0.50	02/10/12 10:55	
n-Hexane	ug/L	ND	10.0	02/10/12 10:55	
Toluene	ug/L	ND	1.0	02/10/12 10:55	
Xylene (Total)	ug/L	ND	3.0	02/10/12 10:55	
1,2-Dichloroethane-d4 (S)	%	96	82-119	02/10/12 10:55	
4-Bromofluorobenzene (S)	%	98	87-113	02/10/12 10:55	
Dibromofluoromethane (S)	%	90	86-112	02/10/12 10:55	
Toluene-d8 (S)	%	98	90-110	02/10/12 10:55	

LABORATORY CONTROL SAMPLE: 949893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.3	91	82-117	
Ethylbenzene	ug/L	20	19.3	97	79-121	
Gasoline Range Organics	mg/L	4	4.2	105	63-139	
n-Hexane	ug/L	20	19.6	98	43-118	
Toluene	ug/L	20	20.3	102	80-120	
Xylene (Total)	ug/L	60	56.8	95	79-120	
1,2-Dichloroethane-d4 (S)	%			100	82-119	
4-Bromofluorobenzene (S)	%			97	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			106	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

QC Batch: OEXT/32007 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60115034001, 60115034002

METHOD BLANK: 949151 Matrix: Water
Associated Lab Samples: 60115034001, 60115034002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	02/09/12 20:40	
Fuel Oil	mg/L	ND	0.40	02/09/12 20:40	
Jet Fuel	mg/L	ND	0.40	02/09/12 20:40	
Kerosene	mg/L	ND	0.40	02/09/12 20:40	
Mineral Spirits	mg/L	ND	0.40	02/09/12 20:40	
Motor Oil	mg/L	ND	0.40	02/09/12 20:40	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	02/09/12 20:40	
n-Tetracosane (S)	%	64	30-122	02/09/12 20:40	
p-Terphenyl (S)	%	84	20-122	02/09/12 20:40	

LABORATORY CONTROL SAMPLE: 949152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	3.9	78	47-122	
n-Tetracosane (S)	%			71	30-122	
p-Terphenyl (S)	%			85	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/32007

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43535

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43549

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115034

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115034001	B-19	OA2	OEXT/32007	OA2	GCSV/11932
60115034002	B-15	OA2	OEXT/32007	OA2	GCSV/11932
60115034001	B-19	EPA 8260/OA1	MSV/43549		
60115034002	B-15	EPA 8260/OA1	MSV/43535		
60115034002	B-15	EPA 8260/OA1	MSV/43549		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: PACE

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Co. Nemaha, NE

Sample Type

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis							Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX, n-Hexane (OA1)	TPH (OA2)						66115034
	B-19						2/8/12	1430	✓				✓	✓	~~2AG1~~ 2/9/12	1AG2U	3DG9U			CC1
	B-15						2/8/12	1500	✓				✓	✓		↓	↓			CC2

Sampler (signature): Tom Moriarty

Sampler (signature):

Special Instructions: 2 day TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time	Ice Present in Container:	Temperature Upon Receipt:
1.	2/9/12 0811		2/9/12 0806	Yes ☑ No ☐	2-1°C
Relinquished By (signature): 2.	Date/Time	Received By (signature):	Date/Time	Laboratory Comments:	

Sample Condition Upon Receipt

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Client Name: Burns & McDonnell Project # 60115034

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☑ Other VIA

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date:
Proj. Name: 2/13

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2.1

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 2/9/12

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. 2-Day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y / N) Field Data Required? (Y / N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 2/10/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev 05, 19February2010

Surface Water and Domestic Well

Pace Analytical Services, Inc.
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(913)599-5665

December 12, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
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(913)599-5665

CERTIFICATIONS

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60111910001	BKG	Water	12/11/11 15:20	12/12/11 08:00
60111910002	HOME 1	Water	12/11/11 15:35	12/12/11 08:00
60111910003	UNDERFLOW DAM	Water	12/11/11 16:25	12/12/11 08:00
60111910004	TRIP BLANK	Water	12/11/11 08:00	12/12/11 08:00
60111910005	TP-1 SS-1	Solid	12/10/11 23:55	12/12/11 08:00

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SAMPLE ANALYTE COUNT

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60111910001	BKG	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111910002	HOME 1	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111910003	UNDERFLOW DAM	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111910005	TP-1 SS-1	OA2	SDR	9
		EPA 8260/OA1	JDM	10
		ASTM D2974-87	DWC	1

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ANALYTICAL RESULTS

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Sample: BKG **Lab ID: 60111910001** Collected: 12/11/11 15:20 Received: 12/12/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:09		
Surrogates								
p-Terphenyl (S)	75	%	20-122	1	12/12/11 00:00	12/12/11 11:09	92-94-4	
n-Tetracosane (S)	72	%	30-122	1	12/12/11 00:00	12/12/11 11:09	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/12/11 09:55		
Benzene	ND	ug/L	1.0	1		12/12/11 09:55	71-43-2	
Toluene	ND	ug/L	1.0	1		12/12/11 09:55	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/12/11 09:55	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/12/11 09:55	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/12/11 09:55	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/12/11 09:55	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		12/12/11 09:55	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/12/11 09:55	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119	1		12/12/11 09:55	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/12/11 09:55		

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ANALYTICAL RESULTS

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Sample: HOME 1 **Lab ID: 60111910002** Collected: 12/11/11 15:35 Received: 12/12/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:20		
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	12/12/11 00:00	12/12/11 11:20	92-94-4	
n-Tetracosane (S)	75	%	30-122	1	12/12/11 00:00	12/12/11 11:20	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/12/11 10:11		
Benzene	ND	ug/L	1.0	1		12/12/11 10:11	71-43-2	
Toluene	ND	ug/L	1.0	1		12/12/11 10:11	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/12/11 10:11	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/12/11 10:11	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/12/11 10:11	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/12/11 10:11	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		12/12/11 10:11	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/12/11 10:11	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		12/12/11 10:11	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/12/11 10:11		

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ANALYTICAL RESULTS

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Sample: UNDERFLOW DAM **Lab ID: 60111910003** Collected: 12/11/11 16:25 Received: 12/12/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/12/11 00:00	12/12/11 11:32		
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	12/12/11 00:00	12/12/11 11:32	92-94-4	
n-Tetracosane (S)	76	%	30-122	1	12/12/11 00:00	12/12/11 11:32	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/12/11 10:26		
Benzene	ND	ug/L	1.0	1		12/12/11 10:26	71-43-2	
Toluene	ND	ug/L	1.0	1		12/12/11 10:26	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/12/11 10:26	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/12/11 10:26	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/12/11 10:26	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/12/11 10:26	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/12/11 10:26	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		12/12/11 10:26	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		12/12/11 10:26	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/12/11 10:26		

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ANALYTICAL RESULTS

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Sample: TP-1 SS-1 **Lab ID: 60111910005** Collected: 12/10/11 23:55 Received: 12/12/11 08:00 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35	68334-30-5	
Fuel Oil	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35	68553-00-4	
Jet Fuel	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35	94114-58-6	
Kerosene	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35	8008-20-6	
Mineral Spirits	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35	8030-30-6	
Motor Oil	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.1	1	12/12/11 00:00	12/12/11 10:35		
Surrogates								
n-Tetracosane (S)	176	%	50-137	1	12/12/11 00:00	12/12/11 10:35	646-31-1	S3
p-Terphenyl (S)	187	%	41-129	1	12/12/11 00:00	12/12/11 10:35	92-94-4	S3
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/kg	31.4	1	12/12/11 00:00	12/12/11 10:57		
n-Hexane	ND	ug/kg	628	1	12/12/11 00:00	12/12/11 10:57	110-54-3	
Benzene	ND	ug/kg	62.8	1	12/12/11 00:00	12/12/11 10:57	71-43-2	
Toluene	ND	ug/kg	126	1	12/12/11 00:00	12/12/11 10:57	108-88-3	
Ethylbenzene	ND	ug/kg	126	1	12/12/11 00:00	12/12/11 10:57	100-41-4	
Xylene (Total)	ND	ug/kg	314	1	12/12/11 00:00	12/12/11 10:57	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99	%	85-113	1	12/12/11 00:00	12/12/11 10:57	1868-53-7	
Toluene-d8 (S)	100	%	86-119	1	12/12/11 00:00	12/12/11 10:57	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	75-121	1	12/12/11 00:00	12/12/11 10:57	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-119	1	12/12/11 00:00	12/12/11 10:57	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.9**	%	0.50	1		12/12/11 00:00		

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QUALITY CONTROL DATA

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

QC Batch: MSV/42380
QC Batch Method: EPA 8260/OA1
Analysis Method: EPA 8260/OA1
Analysis Description: 8260/OA1 UST
Associated Lab Samples: 60111910005

METHOD BLANK: 924894
Matrix: Solid
Associated Lab Samples: 60111910005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	50.0	12/12/11 10:42	
Ethylbenzene	ug/kg	ND	100	12/12/11 10:42	
Gasoline Range Organics	mg/kg	ND	25.0	12/12/11 10:42	
n-Hexane	ug/kg	ND	500	12/12/11 10:42	
Toluene	ug/kg	ND	100	12/12/11 10:42	
Xylene (Total)	ug/kg	ND	250	12/12/11 10:42	
1,2-Dichloroethane-d4 (S)	%	97	75-121	12/12/11 10:42	
4-Bromofluorobenzene (S)	%	100	79-119	12/12/11 10:42	
Dibromofluoromethane (S)	%	99	85-113	12/12/11 10:42	
Toluene-d8 (S)	%	97	86-119	12/12/11 10:42	

LABORATORY CONTROL SAMPLE: 924895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2000	2050	102	70-128	
Ethylbenzene	ug/kg	2000	2110	106	78-121	
Gasoline Range Organics	mg/kg	400	464	116	58-132	
n-Hexane	ug/kg	2000	2360	118	50-130	
Toluene	ug/kg	2000	2070	103	68-128	
Xylene (Total)	ug/kg	6000	6310	105	76-124	
1,2-Dichloroethane-d4 (S)	%			97	75-121	
4-Bromofluorobenzene (S)	%			101	79-119	
Dibromofluoromethane (S)	%			100	85-113	
Toluene-d8 (S)	%			100	86-119	

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QUALITY CONTROL DATA

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

QC Batch: MSV/42379 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60111910001, 60111910002, 60111910003

METHOD BLANK: 924892 Matrix: Water
Associated Lab Samples: 60111910001, 60111910002, 60111910003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/12/11 09:40	
Ethylbenzene	ug/L	ND	1.0	12/12/11 09:40	
Gasoline Range Organics	mg/L	ND	0.50	12/12/11 09:40	
n-Hexane	ug/L	ND	10.0	12/12/11 09:40	
Toluene	ug/L	ND	1.0	12/12/11 09:40	
Xylene (Total)	ug/L	ND	3.0	12/12/11 09:40	
1,2-Dichloroethane-d4 (S)	%	100	82-119	12/12/11 09:40	
4-Bromofluorobenzene (S)	%	98	87-113	12/12/11 09:40	
Dibromofluoromethane (S)	%	103	86-112	12/12/11 09:40	
Toluene-d8 (S)	%	100	90-110	12/12/11 09:40	

LABORATORY CONTROL SAMPLE: 924893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	102	82-117	
Ethylbenzene	ug/L	20	21.1	106	79-121	
Gasoline Range Organics	mg/L	4	4.6	116	63-139	
n-Hexane	ug/L	20	23.6	118	43-118	
Toluene	ug/L	20	20.7	103	80-120	
Xylene (Total)	ug/L	60	63.1	105	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			100	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

QC Batch: OEXT/31450 | Analysis Method: OA2
QC Batch Method: OA2 | Analysis Description: OA2 GCS
Associated Lab Samples: 60111910005

METHOD BLANK: 924900 | Matrix: Solid
Associated Lab Samples: 60111910005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	19.3	12/12/11 09:46	
Fuel Oil	mg/kg	ND	19.3	12/12/11 09:46	
Jet Fuel	mg/kg	ND	19.3	12/12/11 09:46	
Kerosene	mg/kg	ND	19.3	12/12/11 09:46	
Mineral Spirits	mg/kg	ND	19.3	12/12/11 09:46	
Motor Oil	mg/kg	ND	19.3	12/12/11 09:46	
Total Petroleum Hydrocarbons	mg/kg	ND	19.3	12/12/11 09:46	
n-Tetracosane (S)	%	92	50-137	12/12/11 09:46	
p-Terphenyl (S)	%	97	41-129	12/12/11 09:46	

LABORATORY CONTROL SAMPLE: 924901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	492	462	94	66-138	
n-Tetracosane (S)	%			88	50-137	
p-Terphenyl (S)	%			89	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 924902 924903

Parameter	Units	60111910005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	578	603	598	616	104	102	56-154	3	27	
n-Tetracosane (S)	%						94	91	50-137			
p-Terphenyl (S)	%						93	93	41-129			

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QUALITY CONTROL DATA

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

QC Batch: OEXT/31449 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60111910001, 60111910002, 60111910003

METHOD BLANK: 924898 Matrix: Water
Associated Lab Samples: 60111910001, 60111910002, 60111910003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/12/11 10:46	
Fuel Oil	mg/L	ND	0.40	12/12/11 10:46	
Jet Fuel	mg/L	ND	0.40	12/12/11 10:46	
Kerosene	mg/L	ND	0.40	12/12/11 10:46	
Mineral Spirits	mg/L	ND	0.40	12/12/11 10:46	
Motor Oil	mg/L	ND	0.40	12/12/11 10:46	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/12/11 10:46	
n-Tetracosane (S)	%	65	30-122	12/12/11 10:46	
p-Terphenyl (S)	%	76	20-122	12/12/11 10:46	

LABORATORY CONTROL SAMPLE: 924899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.5	91	47-122	
n-Tetracosane (S)	%			73	30-122	
p-Terphenyl (S)	%			85	20-122	

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QUALITY CONTROL DATA

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

QC Batch: PMST/6836
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60111910005

METHOD BLANK: 924906
Matrix: Solid
Associated Lab Samples: 60111910005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	12/12/11 00:00	

SAMPLE DUPLICATE: 924907

Parameter	Units	60111910005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.9	20.9	0	20	

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QUALIFIERS

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/42379

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/31449

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Magellan Nemaha Rapid Response
Pace Project No.: 60111910

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60111910005	**TP-1 SS-1**	OA2	OEXT/31450	OA2	GCSV/11681
60111910001	**BKG**	OA2	OEXT/31449	OA2	GCSV/11680
60111910002	**HOME 1**	OA2	OEXT/31449	OA2	GCSV/11680
60111910003	**UNDERFLOW DAM**	OA2	OEXT/31449	OA2	GCSV/11680
60111910005	**TP-1 SS-1**	EPA 8260/OA1	MSV/42380	EPA 8260/OA1	MSV/42381
60111910001	**BKG**	EPA 8260/OA1	MSV/42379		
60111910002	**HOME 1**	EPA 8260/OA1	MSV/42379		
60111910003	**UNDERFLOW DAM**	EPA 8260/OA1	MSV/42379		
60111910005	**TP-1 SS-1**	ASTM D2974-87	PMST/6836		

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Sample Condition Upon Receipt

Client Name: B+MCD Project # 60111910

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other Blaine

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☒ No

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No

Optional
Proj. Due Date: 12/12
Proj. Name: Magellan - Nemaha

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.5

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: JNS 12/12/11 810

				Comments:
Chain of Custody present:	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody filled out:	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody relinquished:	☒ Yes	☐ No	☐ N/A	3.
Sampler name & signature on COC:	☒ Yes	☐ No	☐ N/A	4.
Samples arrived within holding time:	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time requested:	☒ Yes	☐ No	☐ N/A	7. Same day TAT
Sufficient volume:	☒ Yes	☐ No	☐ N/A	8.
Correct containers used:	☒ Yes	☐ No	☐ N/A	9.
-Pace containers used:	☒ Yes	☐ No	☐ N/A	
Containers intact:	☒ Yes	☐ No	☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☒ Yes	☐ No	☐ N/A	11.
Filtered volume received for dissolved tests	☒ Yes	☐ No	☐ N/A	12.
Sample labels match COC:	☒ Yes	☐ No	☐ N/A	13.
-Includes date/time/ID/analyses Matrix: water/soil				
All containers needing preservation have been checked.	☐ Yes	☐ No	☒ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes	☐ No		Initial when completed [initials] Lot # of added preservative _____
Trip Blank present:	☒ Yes	☐ No	☐ N/A	15.
Pace Trip Blank lot # (if purchased): 111411-3				
Headspace in VOA vials (>6mm):	☐ Yes	☒ No	☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes	☐ No	☒ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 12/18/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

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PACE RAPID RESPONSE TEAM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

****RAPID RESPONSE SAMPLES****

Page: of

Section A Required Client Information:

Company: BURNS & McDONNELL
Address: 9400 WARD PKY
KANSAS CITY, MO 64114
Email To: TGUSTAFSON@BURNSMCD.COM
Phone: 816-822-3464 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: TREVOR GUSTAFSON
Copy To:
Purchase Order No.:
Project Name: MAGELLAN - NEMAHA
Project Number:

Section C Invoice Information:

Attention: TREVOR GUSTAFSON
Company Name: Same as section A
Address: SAME
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER_____

SITE LOCATION: ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER NE

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis: BTEX (OA1)	TEH (OA2)	HEXAVE	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D.
1	BKG	WT	G	12/11/11	1520				4				✓					X	X	X		1(AEAH) 3(DE9H) 001
2	HOME 1	↓	↓	↓	1535				4				✓					X	X	X		002
3	UNDERFLOW DAM	↓	↓	↓	1625				4				✓					X	X	X		003
4	TRIP BLANK																					1(DE9H) 004
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] GTEH	12/11/11	1715	[signature] / Pace	12/11/11	1713
[signature] / Pace	12/12	800	[signature]	12/12/11	800

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
1.5	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

E-File,(ALLQ020rev.3,31Mar05), 13Jun2005

****RAPID RESPONSE SAMPLES****

Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number:

Sample Type

Client Name: Magellan Pipeline Company, L.P. Nemaha Release

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX (OA-1)	TEH (OA-2)					
	TP-1	SS-1			15'		12/10/11	2355		X		2	X	X					2(WEFM) 005

6011910

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: 24 hr TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time
1.		Blane Wood/Pace	12/11/1715
2. Blane Wood/Pace	12/12 800	[signature]	12/12/11 800

Ice Present in Container: Yes ☒ No ☐

Temperature Upon Receipt: 1.5°C

Laboratory Comments:

Pace Analytical Services, Inc.
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(913)599-5665

December 14, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60111997001	SW-1 (UNDERFLOW #2 OUTFALL)	Water	12/12/11 15:45	12/14/11 08:17
60111997002	SW-2 (UNDERFLOW #4 OUTFALL)	Water	12/12/11 16:00	12/14/11 08:17
60111997003	SW-3 (JARVIS CK BRIDGE)	Water	12/12/11 16:35	12/14/11 08:17
60111997004	SW-1 (UNDERFLOW #2 OUTFALL)	Water	12/13/11 13:40	12/14/11 08:17
60111997005	SW-2 (UNDERFLOW #4 OUTFALL)	Water	12/13/11 14:40	12/14/11 08:17
60111997006	SW-4 (BOOM STATION)	Water	12/13/11 15:05	12/14/11 08:17
60111997007	SW-3 (JARVIS CK BRIDGE)	Water	12/13/11 15:45	12/14/11 08:17
60111997008	T.BLANK	Water	12/13/11 00:00	12/14/11 08:17

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SAMPLE ANALYTE COUNT

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60111997001	**SW-1 (UNDERFLOW #2 OUTFALL)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997002	**SW-2 (UNDERFLOW #4 OUTFALL)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997003	**SW-3 (JARVIS CK BRIDGE)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997004	**SW-1 (UNDERFLOW #2 OUTFALL)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997005	**SW-2 (UNDERFLOW #4 OUTFALL)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997006	**SW-4 (BOOM STATION)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997007	**SW-3 (JARVIS CK BRIDGE)**	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60111997008	**T.BLANK**	EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-1 (UNDERFLOW #2 OUTFALL) **Lab ID: 60111997001** Collected: 12/12/11 15:45 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20	64742-65-0	
Total Petroleum Hydrocarbons	**1.8**	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:20		1e
Surrogates								
p-Terphenyl (S)	76	%	20-122	1	12/14/11 00:00	12/14/11 12:20	92-94-4	
n-Tetracosane (S)	78	%	30-122	1	12/14/11 00:00	12/14/11 12:20	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**4.3**	mg/L	0.50	1		12/14/11 09:56		
Benzene	**13.9**	ug/L	1.0	1		12/14/11 09:56	71-43-2	
Toluene	**381**	ug/L	5.0	5		12/14/11 14:04	108-88-3	
Ethylbenzene	**139**	ug/L	1.0	1		12/14/11 09:56	100-41-4	
Xylene (Total)	**794**	ug/L	15.0	5		12/14/11 14:04	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 09:56	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/14/11 09:56	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		12/14/11 09:56	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		12/14/11 09:56	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	82-119	1		12/14/11 09:56	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 09:56		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-2 (UNDERFLOW #4 OUTFALL) **Lab ID: 60111997002** Collected: 12/12/11 16:00 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31	64742-65-0	
Total Petroleum Hydrocarbons	**3.0**	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:31		1e
Surrogates								
p-Terphenyl (S)	83	%	20-122	1	12/14/11 00:00	12/14/11 12:31	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	12/14/11 00:00	12/14/11 12:31	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**8.0**	mg/L	0.50	1		12/14/11 10:12		
Benzene	**222**	ug/L	10.0	10		12/14/11 14:20	71-43-2	
Toluene	**1700**	ug/L	10.0	10		12/14/11 14:20	108-88-3	
Ethylbenzene	**296**	ug/L	10.0	10		12/14/11 14:20	100-41-4	
Xylene (Total)	**1560**	ug/L	30.0	10		12/14/11 14:20	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 10:12	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/14/11 10:12	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/14/11 10:12	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/14/11 10:12	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		12/14/11 10:12	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 10:12		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-3 (JARVIS CK BRIDGE) **Lab ID: 60111997003** Collected: 12/12/11 16:35 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:42		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	12/14/11 00:00	12/14/11 12:42	92-94-4	
n-Tetracosane (S)	86	%	30-122	1	12/14/11 00:00	12/14/11 12:42	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/14/11 13:33		
Benzene	ND	ug/L	1.0	1		12/14/11 13:33	71-43-2	
Toluene	**1.6**	ug/L	1.0	1		12/14/11 13:33	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/14/11 13:33	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/14/11 13:33	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 13:33	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/14/11 13:33	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		12/14/11 13:33	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/14/11 13:33	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		12/14/11 13:33	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 13:33		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-1 (UNDERFLOW #2 OUTFALL) **Lab ID: 60111997004** Collected: 12/13/11 13:40 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54	64742-65-0	
Total Petroleum Hydrocarbons	**2.7**	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:54		1e
Surrogates								
p-Terphenyl (S)	94	%	20-122	1	12/14/11 00:00	12/14/11 12:54	92-94-4	
n-Tetracosane (S)	94	%	30-122	1	12/14/11 00:00	12/14/11 12:54	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**2.9**	mg/L	0.50	1		12/14/11 10:43		
Benzene	**5.7**	ug/L	1.0	1		12/14/11 10:43	71-43-2	
Toluene	**162**	ug/L	1.0	1		12/14/11 10:43	108-88-3	
Ethylbenzene	**68.3**	ug/L	1.0	1		12/14/11 10:43	100-41-4	
Xylene (Total)	**404**	ug/L	3.0	1		12/14/11 10:43	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 10:43	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/14/11 10:43	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		12/14/11 10:43	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/14/11 10:43	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	82-119	1		12/14/11 10:43	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 10:43		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-2 (UNDERFLOW #4 OUTFALL) **Lab ID: 60111997005** Collected: 12/13/11 14:40 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05	64742-65-0	
Total Petroleum Hydrocarbons	**3.8**	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:05		1e
Surrogates								
p-Terphenyl (S)	88	%	20-122	1	12/14/11 00:00	12/14/11 13:05	92-94-4	
n-Tetracosane (S)	88	%	30-122	1	12/14/11 00:00	12/14/11 13:05	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**8.9**	mg/L	0.50	1		12/14/11 10:58		
Benzene	**320**	ug/L	10.0	10		12/14/11 14:35	71-43-2	
Toluene	**1910**	ug/L	20.0	20		12/14/11 15:06	108-88-3	
Ethylbenzene	**363**	ug/L	10.0	10		12/14/11 14:35	100-41-4	
Xylene (Total)	**1870**	ug/L	30.0	10		12/14/11 14:35	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 10:58	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/14/11 10:58	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/14/11 10:58	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/14/11 10:58	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		12/14/11 10:58	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 10:58		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-4 (BOOM STATION) **Lab ID: 60111997006** Collected: 12/13/11 15:05 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16	64742-65-0	
Total Petroleum Hydrocarbons	**3.6**	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:16		1e
Surrogates								
p-Terphenyl (S)	89	%	20-122	1	12/14/11 00:00	12/14/11 13:16	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	12/14/11 00:00	12/14/11 13:16	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**7.3**	mg/L	0.50	1		12/14/11 11:14		
Benzene	**227**	ug/L	10.0	10		12/14/11 14:51	71-43-2	
Toluene	**1530**	ug/L	10.0	10		12/14/11 14:51	108-88-3	
Ethylbenzene	**279**	ug/L	10.0	10		12/14/11 14:51	100-41-4	
Xylene (Total)	**1500**	ug/L	30.0	10		12/14/11 14:51	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 11:14	110-54-3	
Surrogates								
Dibromofluoromethane (S)	97	%	86-112	1		12/14/11 11:14	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/14/11 11:14	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/14/11 11:14	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/14/11 11:14	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 11:14		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: SW-3 (JARVIS CK BRIDGE) **Lab ID: 60111997007** Collected: 12/13/11 15:45 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 13:28		
Surrogates								
p-Terphenyl (S)	92	%	20-122	1	12/14/11 00:00	12/14/11 13:28	92-94-4	
n-Tetracosane (S)	93	%	30-122	1	12/14/11 00:00	12/14/11 13:28	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/14/11 13:49		
Benzene	**1.4**	ug/L	1.0	1		12/14/11 13:49	71-43-2	
Toluene	**12.9**	ug/L	1.0	1		12/14/11 13:49	108-88-3	
Ethylbenzene	**2.3**	ug/L	1.0	1		12/14/11 13:49	100-41-4	
Xylene (Total)	**14.4**	ug/L	3.0	1		12/14/11 13:49	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 13:49	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/14/11 13:49	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/14/11 13:49	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/14/11 13:49	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/14/11 13:49	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 13:49		

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ANALYTICAL RESULTS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Sample: T.BLANK **Lab ID: 60111997008** Collected: 12/13/11 00:00 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/14/11 11:45		
Benzene	ND	ug/L	1.0	1		12/14/11 11:45	71-43-2	
Toluene	ND	ug/L	1.0	1		12/14/11 11:45	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/14/11 11:45	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/14/11 11:45	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 11:45	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		12/14/11 11:45	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/14/11 11:45	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/14/11 11:45	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		12/14/11 11:45	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 11:45		

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QUALITY CONTROL DATA

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

QC Batch: MSV/42460 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60111997001, 60111997002, 60111997003, 60111997004, 60111997005, 60111997006, 60111997007, 60111997008

METHOD BLANK: 925991 Matrix: Water
Associated Lab Samples: 60111997001, 60111997002, 60111997003, 60111997004, 60111997005, 60111997006, 60111997007, 60111997008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/14/11 09:25	
Ethylbenzene	ug/L	ND	1.0	12/14/11 09:25	
Gasoline Range Organics	mg/L	ND	0.50	12/14/11 09:25	
n-Hexane	ug/L	ND	10.0	12/14/11 09:25	
Toluene	ug/L	ND	1.0	12/14/11 09:25	
Xylene (Total)	ug/L	ND	3.0	12/14/11 09:25	
1,2-Dichloroethane-d4 (S)	%	96	82-119	12/14/11 09:25	
4-Bromofluorobenzene (S)	%	97	87-113	12/14/11 09:25	
Dibromofluoromethane (S)	%	98	86-112	12/14/11 09:25	
Toluene-d8 (S)	%	100	90-110	12/14/11 09:25	

LABORATORY CONTROL SAMPLE: 925992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.4	102	82-117	
Ethylbenzene	ug/L	20	20.0	100	79-121	
Gasoline Range Organics	mg/L	4	3.9	97	63-139	
n-Hexane	ug/L	20	23.6	118	43-118	
Toluene	ug/L	20	19.7	99	80-120	
Xylene (Total)	ug/L	60	59.3	99	79-120	
1,2-Dichloroethane-d4 (S)	%			93	82-119	
4-Bromofluorobenzene (S)	%			96	87-113	
Dibromofluoromethane (S)	%			100	86-112	
Toluene-d8 (S)	%			97	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

QC Batch: OEXT/31478 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60111997001, 60111997002, 60111997003, 60111997004, 60111997005, 60111997006, 60111997007

METHOD BLANK: 926048 Matrix: Water
Associated Lab Samples: 60111997001, 60111997002, 60111997003, 60111997004, 60111997005, 60111997006, 60111997007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/14/11 11:46	
Fuel Oil	mg/L	ND	0.40	12/14/11 11:46	
Jet Fuel	mg/L	ND	0.40	12/14/11 11:46	
Kerosene	mg/L	ND	0.40	12/14/11 11:46	
Mineral Spirits	mg/L	ND	0.40	12/14/11 11:46	
Motor Oil	mg/L	ND	0.40	12/14/11 11:46	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/14/11 11:46	
n-Tetracosane (S)	%	74	30-122	12/14/11 11:46	
p-Terphenyl (S)	%	79	20-122	12/14/11 11:46	

LABORATORY CONTROL SAMPLE: 926049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.4	88	47-122	
n-Tetracosane (S)	%			90	30-122	
p-Terphenyl (S)	%			93	20-122	

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QUALIFIERS

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/42460

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/31478

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN - NEMAHA
Pace Project No.: 60111997

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60111997001	SW-1 (UNDERFLOW #2 OUTFALL)	OA2	OEXT/31478	OA2	GCSV/11697
60111997002	SW-2 (UNDERFLOW #4 OUTFALL)	OA2	OEXT/31478	OA2	GCSV/11697
60111997003	SW-3 (JARVIS CK BRIDGE)	OA2	OEXT/31478	OA2	GCSV/11697
60111997004	SW-1 (UNDERFLOW #2 OUTFALL)	OA2	OEXT/31478	OA2	GCSV/11697
60111997005	SW-2 (UNDERFLOW #4 OUTFALL)	OA2	OEXT/31478	OA2	GCSV/11697
60111997006	SW-4 (BOOM STATION)	OA2	OEXT/31478	OA2	GCSV/11697
60111997007	SW-3 (JARVIS CK BRIDGE)	OA2	OEXT/31478	OA2	GCSV/11697
60111997001	SW-1 (UNDERFLOW #2 OUTFALL)	EPA 8260/OA1	MSV/42460		
60111997002	SW-2 (UNDERFLOW #4 OUTFALL)	EPA 8260/OA1	MSV/42460		
60111997003	SW-3 (JARVIS CK BRIDGE)	EPA 8260/OA1	MSV/42460		
60111997004	SW-1 (UNDERFLOW #2 OUTFALL)	EPA 8260/OA1	MSV/42460		
60111997005	SW-2 (UNDERFLOW #4 OUTFALL)	EPA 8260/OA1	MSV/42460		
60111997006	SW-4 (BOOM STATION)	EPA 8260/OA1	MSV/42460		
60111997007	SW-3 (JARVIS CK BRIDGE)	EPA 8260/OA1	MSV/42460		
60111997008	T.BLANK	EPA 8260/OA1	MSV/42460		

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PACE RAPID RESPONSE TEAM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

****RAPID RESPONSE SAMPLES****

Page: of

Section A Required Client Information:

Company: BURNS & McDONNELL
Address: 9400 WARD PKY
KANSAS CITY, MO 64114
Email To: TGUSTAFSON@BURNSMCD.COM
Phone: 816 822 3464 Fax:
Requested Due Date/TAT: SEE NOTES

Section B Required Project Information:

Report To: TREVOR GUSTAFSON
Copy To:
Purchase Order No.:
Project Name: MAGELLAN-NEMAHA
Project Number:

Section C Invoice Information:

Attention: SAME
Company Name: Same as section A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER_____

SITE LOCATION: ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☒ OTHER NE

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Filtered (Y/N)

Requested Analysis: BTEX + HEX AOI / TEH AOI / NO / RUSH ASAP / RUSH FRIDAY AM / Residual Chlorine (Y/N) / Pace Project Number Lab I.D. 60111997

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G+GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX + HEX AOI	TEH AOI	RUSH ASAP	RUSH FRIDAY AM	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	SW-1 (UNDERFLOW #2 OUTFALL)	WT	G			12/12	1545		4				X					X	X		X		AGIU 3(DS9H) 001
2	SW-2 (UNDERFLOW #4 OUTFALL)	WT	G			12/12	1600		4				X					X	X	X			↓ ↓ 002
3	SW-3 (JARVIS CK BRIDGE)	WT	G			12/12	1635		4				X					X	X	X			↓ ↓ 003
4																							
5	SW-1 (UNDERFLOW #2 OUTFALL)	WT	G			12/13	1340		4				X					X	X		X		AGIU 3(DS9H) 004
6	SW-2 (UNDERFLOW #4 OUTFALL)	WT	G			12/13	1440		4				X					X	X	X			↓ ↓ 005
7	SW-4 (BOOM STATION)	WT	G			12/13	1505		4				X					X	X		X		↓ ↓ 006
8	SW-3 (JARVIS CK BRIDGE)	WT	G			12/13	1545		4				X					X	X	X			↓ ↓ 007
9	T. BLANK								1														1(DS9H)TB 008
10																							
11																							
12																							

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	12/13/11	1640	Blanc Wood/Pace	12/13/11	1640
Blanc Wood/Pace	12/14/11	8[illegible]	[signature]	12-14-11	0817

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
3.0	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MIKE FEAMSTER
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 12/13/11

****RAPID RESPONSE SAMPLES****

E-File,(ALLQ020rev.3,31Mar05), 13Jun2005

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

Client Name: Burns & Mac Project # 60111997

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other Blue

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☐ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/14/11
Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 3.0
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 12/14/11 by

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. Same day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed ____ Lot # of added preservative ____
Trip Blank present:	☑ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 12/13/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

December 14, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Amended report revised 12/14/11 to include n-Hexane.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60111996001	**JARVIS CK CONFLUENCE**	Water	12/13/11 16:40	12/14/11 08:17

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SAMPLE ANALYTE COUNT

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60111996001	**JARVIS CK CONFLUENCE**	OA2	SDR	9
		EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

Sample: JARVIS CK CONFLUENCE **Lab ID: 60111996001** Collected: 12/13/11 16:40 Received: 12/14/11 08:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/14/11 00:00	12/14/11 12:09		
Surrogates								
p-Terphenyl (S)	83	%	20-122	1	12/14/11 00:00	12/14/11 12:09	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	12/14/11 00:00	12/14/11 12:09	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/14/11 09:41		
Benzene	ND	ug/L	1.0	1		12/14/11 09:41	71-43-2	
Toluene	ND	ug/L	1.0	1		12/14/11 09:41	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/14/11 09:41	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/14/11 09:41	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/14/11 09:41	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/14/11 09:41	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		12/14/11 09:41	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/14/11 09:41	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	82-119	1		12/14/11 09:41	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/14/11 09:41		

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QUALITY CONTROL DATA

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

QC Batch: MSV/42460 | Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 | Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60111996001

METHOD BLANK: 925991 | Matrix: Water
Associated Lab Samples: 60111996001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/14/11 09:25	
Ethylbenzene	ug/L	ND	1.0	12/14/11 09:25	
Gasoline Range Organics	mg/L	ND	0.50	12/14/11 09:25	
n-Hexane	ug/L	ND	10.0	12/14/11 09:25	
Toluene	ug/L	ND	1.0	12/14/11 09:25	
Xylene (Total)	ug/L	ND	3.0	12/14/11 09:25	
1,2-Dichloroethane-d4 (S)	%	96	82-119	12/14/11 09:25	
4-Bromofluorobenzene (S)	%	97	87-113	12/14/11 09:25	
Dibromofluoromethane (S)	%	98	86-112	12/14/11 09:25	
Toluene-d8 (S)	%	100	90-110	12/14/11 09:25	

LABORATORY CONTROL SAMPLE: 925992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.4	102	82-117	
Ethylbenzene	ug/L	20	20.0	100	79-121	
Gasoline Range Organics	mg/L	4	3.9	97	63-139	
n-Hexane	ug/L	20	23.6	118	43-118	
Toluene	ug/L	20	19.7	99	80-120	
Xylene (Total)	ug/L	60	59.3	99	79-120	
1,2-Dichloroethane-d4 (S)	%			93	82-119	
4-Bromofluorobenzene (S)	%			96	87-113	
Dibromofluoromethane (S)	%			100	86-112	
Toluene-d8 (S)	%			97	90-110	

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QUALITY CONTROL DATA

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

QC Batch: OEXT/31478 | Analysis Method: OA2
QC Batch Method: OA2 | Analysis Description: OA2 GCS
Associated Lab Samples: 60111996001

METHOD BLANK: 926048 | Matrix: Water
Associated Lab Samples: 60111996001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/14/11 11:46	
Fuel Oil	mg/L	ND	0.40	12/14/11 11:46	
Jet Fuel	mg/L	ND	0.40	12/14/11 11:46	
Kerosene	mg/L	ND	0.40	12/14/11 11:46	
Mineral Spirits	mg/L	ND	0.40	12/14/11 11:46	
Motor Oil	mg/L	ND	0.40	12/14/11 11:46	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/14/11 11:46	
n-Tetracosane (S)	%	74	30-122	12/14/11 11:46	
p-Terphenyl (S)	%	79	20-122	12/14/11 11:46	

LABORATORY CONTROL SAMPLE: 926049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.4	88	47-122	
n-Tetracosane (S)	%			90	30-122	
p-Terphenyl (S)	%			93	20-122	

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QUALIFIERS

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/42460

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/31478

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RR MAGELLAN (JARVIS)
Pace Project No.: 60111996

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60111996001	**JARVIS CK CONFLUENCE**	OA2	OEXT/31478	OA2	GCSV/11697
60111996001	**JARVIS CK CONFLUENCE**	EPA 8260/OA1	MSV/42460		

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PACE RAPID RESPONSE TEAM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

****RAPID RESPONSE SAMPLES****

Page: of

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BAMC	Report To: Trevor Fustafsm	Attention: Trevor Fustafsm
Address:	Copy To:	Company Name: Same as section A BAMC
		Address: KCMO
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Magellan Nemaha	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER____

SITE LOCATION: ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER____

Filtered (Y/N)

Requested Analysis: BTEX DA1 TEH DA2 Friday AM

Section D Required Client Information

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G+GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	Jarvis Ck Confluence	WT	G	12/13/11	1640				3				X				X	X X	AS1W 3(0594)001
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] / CTEH	12/13/11	1715	[signature] Wood / Pace	12/13/11	1715
[signature] Wood / Pace	12/14/11	815	[signature]	12-14-11	817

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
2.0	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

****RAPID RESPONSE SAMPLES****

E-File,(ALLQ020rev.3,31Mar05), 13Jun2005

Sample Condition Upon Receipt

Pace Analytical®
www.pacelabs.com

Client Name: Burns & Mac Project # 60111996

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other Blaine

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☐ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/14/11
Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2.0

Date and Initials of person examining contents: 12/14/11 bj

Temperature should be above freezing to 6°C

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. Same Day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 12/14/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

December 16, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Anna Custer for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
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CERTIFICATIONS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112247001	BKG	Water	12/14/11 14:50	12/15/11 19:30
60112247002	SW-1	Water	12/14/11 15:05	12/15/11 19:30
60112247003	SW-2	Water	12/14/11 15:25	12/15/11 19:30
60112247004	HOUSEWELL	Water	12/14/11 15:35	12/15/11 19:30
60112247005	JARVIS CK CONFLUENCE	Water	12/14/11 16:04	12/15/11 19:30
60112247006	SW-3	Water	12/14/11 16:20	12/15/11 19:30

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SAMPLE ANALYTE COUNT

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112247001	BKG	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112247002	SW-1	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112247003	SW-2	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112247004	HOUSEWELL	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112247005	JARVIS CK CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112247006	SW-3	OA2	SDR	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Sample: BKG **Lab ID: 60112247001** Collected: 12/14/11 14:50 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:52		
Surrogates								
p-Terphenyl (S)	69	%	20-122	1	12/16/11 00:00	12/16/11 12:52	92-94-4	
n-Tetracosane (S)	70	%	30-122	1	12/16/11 00:00	12/16/11 12:52	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/16/11 09:58		
Benzene	ND	ug/L	1.0	1		12/16/11 09:58	71-43-2	
Toluene	ND	ug/L	1.0	1		12/16/11 09:58	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/16/11 09:58	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/16/11 09:58	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 09:58	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		12/16/11 09:58	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/16/11 09:58	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/16/11 09:58	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	82-119	1		12/16/11 09:58	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 09:58		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Sample: SW-1 **Lab ID: 60112247002** Collected: 12/14/11 15:05 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03	64742-65-0	
Total Petroleum Hydrocarbons	**5.6**	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:03		1e
Surrogates								
p-Terphenyl (S)	77	%	20-122	1	12/16/11 00:00	12/16/11 13:03	92-94-4	
n-Tetracosane (S)	77	%	30-122	1	12/16/11 00:00	12/16/11 13:03	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	2.5	5		12/16/11 12:20		
Benzene	**18.2**	ug/L	5.0	5		12/16/11 12:20	71-43-2	
Toluene	**180**	ug/L	5.0	5		12/16/11 12:20	108-88-3	
Ethylbenzene	**39.6**	ug/L	5.0	5		12/16/11 12:20	100-41-4	
Xylene (Total)	**248**	ug/L	15.0	5		12/16/11 12:20	1330-20-7	
n-Hexane	ND	ug/L	50.0	5		12/16/11 12:20	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	5		12/16/11 12:20	1868-53-7	
Toluene-d8 (S)	98	%	90-110	5		12/16/11 12:20	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	5		12/16/11 12:20	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	5		12/16/11 12:20	17060-07-0	
Preservation pH	**1.0**		0.10	5		12/16/11 12:20		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Sample: SW-2 **Lab ID: 60112247003** Collected: 12/14/11 15:25 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14	64742-65-0	
Total Petroleum Hydrocarbons	**2.0**	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:14		1e
Surrogates								
p-Terphenyl (S)	78	%	20-122	1	12/16/11 00:00	12/16/11 13:14	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/16/11 00:00	12/16/11 13:14	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	5.0	10		12/16/11 10:26		
Benzene	**22.1**	ug/L	10.0	10		12/16/11 10:26	71-43-2	
Toluene	**234**	ug/L	10.0	10		12/16/11 10:26	108-88-3	
Ethylbenzene	**66.7**	ug/L	10.0	10		12/16/11 10:26	100-41-4	
Xylene (Total)	**405**	ug/L	30.0	10		12/16/11 10:26	1330-20-7	
n-Hexane	ND	ug/L	100	10		12/16/11 10:26	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	10		12/16/11 10:26	1868-53-7	
Toluene-d8 (S)	99	%	90-110	10		12/16/11 10:26	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	10		12/16/11 10:26	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	10		12/16/11 10:26	17060-07-0	
Preservation pH	**1.0**		0.10	10		12/16/11 10:26		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Sample: HOUSEWELL **Lab ID: 60112247004** Collected: 12/14/11 15:35 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:26		
Surrogates								
p-Terphenyl (S)	73	%	20-122	1	12/16/11 00:00	12/16/11 13:26	92-94-4	
n-Tetracosane (S)	77	%	30-122	1	12/16/11 00:00	12/16/11 13:26	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/16/11 10:41		
Benzene	ND	ug/L	1.0	1		12/16/11 10:41	71-43-2	
Toluene	ND	ug/L	1.0	1		12/16/11 10:41	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/16/11 10:41	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/16/11 10:41	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 10:41	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		12/16/11 10:41	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/16/11 10:41	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/16/11 10:41	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/16/11 10:41	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 10:41		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Sample: JARVIS CK CONFLUENCE **Lab ID: 60112247005** Collected: 12/14/11 16:04 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:37		
Surrogates								
p-Terphenyl (S)	50	%	20-122	1	12/16/11 00:00	12/16/11 13:37	92-94-4	
n-Tetracosane (S)	51	%	30-122	1	12/16/11 00:00	12/16/11 13:37	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/16/11 10:55		
Benzene	ND	ug/L	1.0	1		12/16/11 10:55	71-43-2	
Toluene	ND	ug/L	1.0	1		12/16/11 10:55	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/16/11 10:55	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/16/11 10:55	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 10:55	110-54-3	
Surrogates								
Dibromofluoromethane (S)	107	%	86-112	1		12/16/11 10:55	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		12/16/11 10:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/16/11 10:55	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/16/11 10:55	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 10:55		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Sample: SW-3 **Lab ID: 60112247006** Collected: 12/14/11 16:20 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 13:48		
Surrogates								
p-Terphenyl (S)	71	%	20-122	1	12/16/11 00:00	12/16/11 13:48	92-94-4	
n-Tetracosane (S)	71	%	30-122	1	12/16/11 00:00	12/16/11 13:48	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**0.50**	mg/L	0.50	1		12/16/11 11:09		
Benzene	**9.9**	ug/L	1.0	1		12/16/11 11:09	71-43-2	
Toluene	**74.3**	ug/L	1.0	1		12/16/11 11:09	108-88-3	
Ethylbenzene	**14.7**	ug/L	1.0	1		12/16/11 11:09	100-41-4	
Xylene (Total)	**88.0**	ug/L	3.0	1		12/16/11 11:09	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 11:09	110-54-3	
Surrogates								
Dibromofluoromethane (S)	106	%	86-112	1		12/16/11 11:09	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/16/11 11:09	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/16/11 11:09	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		12/16/11 11:09	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 11:09		

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

QC Batch: MSV/42532 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112247001, 60112247002, 60112247003, 60112247004, 60112247005, 60112247006

METHOD BLANK: 927716 Matrix: Water
Associated Lab Samples: 60112247001, 60112247002, 60112247003, 60112247004, 60112247005, 60112247006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/16/11 09:44	
Ethylbenzene	ug/L	ND	1.0	12/16/11 09:44	
Gasoline Range Organics	mg/L	ND	0.50	12/16/11 09:44	
n-Hexane	ug/L	ND	10.0	12/16/11 09:44	
Toluene	ug/L	ND	1.0	12/16/11 09:44	
Xylene (Total)	ug/L	ND	3.0	12/16/11 09:44	
1,2-Dichloroethane-d4 (S)	%	103	82-119	12/16/11 09:44	
4-Bromofluorobenzene (S)	%	101	87-113	12/16/11 09:44	
Dibromofluoromethane (S)	%	104	86-112	12/16/11 09:44	
Toluene-d8 (S)	%	98	90-110	12/16/11 09:44	

LABORATORY CONTROL SAMPLE: 927717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	82-117	
Ethylbenzene	ug/L	20	19.5	97	79-121	
Gasoline Range Organics	mg/L	4	4.0	99	63-139	
n-Hexane	ug/L	20	20.2	101	43-118	
Toluene	ug/L	20	19.3	97	80-120	
Xylene (Total)	ug/L	60	58.5	97	79-120	
1,2-Dichloroethane-d4 (S)	%			100	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			104	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

QC Batch: OEXT/31501 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112247001, 60112247002, 60112247003, 60112247004, 60112247005, 60112247006

METHOD BLANK: 927722 Matrix: Water
Associated Lab Samples: 60112247001, 60112247002, 60112247003, 60112247004, 60112247005, 60112247006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/16/11 11:44	
Fuel Oil	mg/L	ND	0.40	12/16/11 11:44	
Jet Fuel	mg/L	ND	0.40	12/16/11 11:44	
Kerosene	mg/L	ND	0.40	12/16/11 11:44	
Mineral Spirits	mg/L	ND	0.40	12/16/11 11:44	
Motor Oil	mg/L	ND	0.40	12/16/11 11:44	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/16/11 11:44	
n-Tetracosane (S)	%	60	30-122	12/16/11 11:44	
p-Terphenyl (S)	%	71	20-122	12/16/11 11:44	

LABORATORY CONTROL SAMPLE: 927723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.1	82	47-122	
n-Tetracosane (S)	%			69	30-122	
p-Terphenyl (S)	%			71	20-122	

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QUALIFIERS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/42532

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/31501

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN NEMAHA
Pace Project No.: 60112247

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112247001	BKG	OA2	OEXT/31501	OA2	GCSV/11709
60112247002	SW-1	OA2	OEXT/31501	OA2	GCSV/11709
60112247003	SW-2	OA2	OEXT/31501	OA2	GCSV/11709
60112247004	HOUSEWELL	OA2	OEXT/31501	OA2	GCSV/11709
60112247005	JARVIS CK CONFLUENCE	OA2	OEXT/31501	OA2	GCSV/11709
60112247006	SW-3	OA2	OEXT/31501	OA2	GCSV/11709
60112247001	BKG	EPA 8260/OA1	MSV/42532		
60112247002	SW-1	EPA 8260/OA1	MSV/42532		
60112247003	SW-2	EPA 8260/OA1	MSV/42532		
60112247004	HOUSEWELL	EPA 8260/OA1	MSV/42532		
60112247005	JARVIS CK CONFLUENCE	EPA 8260/OA1	MSV/42532		
60112247006	SW-3	EPA 8260/OA1	MSV/42532		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address: 9608 Loiret
City/State/Zip: Lenexa, KS
Telephone: (913) 599-5665

Document Control No: 121411A
Lab. Reference No. or Episode No.:

Project Number:

Client Name: Magellan

Sample Number: Group or SWMU Name	Sample Point	Sample Designator	Sample Event: Round	Year	Sample Depth (in feet): From	To	Sample Collected: Date	Time	Sample Type: Matrix: Liquid	Solid	Gas	Number of Containers	Analysis: BTEX by 04-1	TEH by 04-2					Remarks (60112247)
	BKG						12/14/11	1450	✓			4	X	X	1 Agilu,		3 DGGH		001
	SW-1						12/14/11	1505	✓			4	X	X					002
	SW-2						12/14/11	1525	✓			4	X	X					003
	House Well						12/14/11	1535	✓			4	X	X					004
	Jarvis Ck Confluence						12/14/11	1604	✓			4	X	X					005
	SW-3						12/14/11	1620	✓			4	X	X					006

Sampler (signature): Rusty Parkhurst
Rusty Parkhurst

Sampler (signature):

Special Instructions: Rush

Relinquished By (signature): 1. Rusty Parkhurst — Date/Time 12/15/11 1630
Received By (signature): E Brockett — Date/Time 12/15 1930

Relinquished By (signature): 2. E Brockett — Date/Time 12/15/11 1630
Received By (signature): — Date/Time

Ice Present in Container: Yes ✓ No ☐

Temperature Upon Receipt: 1.9, 3.5

Laboratory Comments: ~~1.9, 3.5~~ → 12/16

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Sample Condition Upon Receipt

Client Name: Burns & McDonnell Project # 60112247

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Commercial ☑Pace ☐Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/16/11
Proj. Name:

Packing Material: ☐Bubble Wrap ☑Bubble Bags ☐Foam ☐None ☐Other _____

Thermometer Used: T-181 / T-194 Type of Ice: ☑Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.9, 3.5

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 12/16/11

		Comments:
Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☑Yes ☐No ☐N/A	7. ASAP
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	9.
-Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐Yes ☑No ☐N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) N Field Data Required? Y (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 2/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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December 16, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 15, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Anna Custer for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112246001	SW-1	Water	12/15/11 13:25	12/15/11 19:30
60112246002	SW-2	Water	12/15/11 14:55	12/15/11 19:30
60112246003	CONFLUENCE	Water	12/15/11 15:18	12/15/11 19:30
60112246004	SW-3	Water	12/15/11 15:38	12/15/11 19:30

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SAMPLE ANALYTE COUNT

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112246001	SW-1	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112246002	SW-2	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112246003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112246004	SW-3	OA2	SDR	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Sample: SW-1 **Lab ID: 60112246001** Collected: 12/15/11 13:25 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07	64742-65-0	
Total Petroleum Hydrocarbons	**0.60**	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:07		1e
Surrogates								
p-Terphenyl (S)	74	%	20-122	1	12/16/11 00:00	12/16/11 12:07	92-94-4	
n-Tetracosane (S)	75	%	30-122	1	12/16/11 00:00	12/16/11 12:07	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/16/11 11:23		
Benzene	ND	ug/L	1.0	1		12/16/11 11:23	71-43-2	
Toluene	**19.3**	ug/L	1.0	1		12/16/11 11:23	108-88-3	
Ethylbenzene	**6.1**	ug/L	1.0	1		12/16/11 11:23	100-41-4	
Xylene (Total)	**36.6**	ug/L	3.0	1		12/16/11 11:23	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 11:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/16/11 11:23	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		12/16/11 11:23	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		12/16/11 11:23	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/16/11 11:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 11:23		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Sample: SW-2 **Lab ID: 60112246002** Collected: 12/15/11 14:55 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18	64742-65-0	
Total Petroleum Hydrocarbons	**1.8**	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:18		1e
Surrogates								
p-Terphenyl (S)	76	%	20-122	1	12/16/11 00:00	12/16/11 12:18	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/16/11 00:00	12/16/11 12:18	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	2.5	5		12/16/11 11:38		
Benzene	**11.2**	ug/L	5.0	5		12/16/11 11:38	71-43-2	
Toluene	**135**	ug/L	5.0	5		12/16/11 11:38	108-88-3	
Ethylbenzene	**44.3**	ug/L	5.0	5		12/16/11 11:38	100-41-4	
Xylene (Total)	**271**	ug/L	15.0	5		12/16/11 11:38	1330-20-7	
n-Hexane	ND	ug/L	50.0	5		12/16/11 11:38	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	5		12/16/11 11:38	1868-53-7	
Toluene-d8 (S)	98	%	90-110	5		12/16/11 11:38	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	5		12/16/11 11:38	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	82-119	5		12/16/11 11:38	17060-07-0	
Preservation pH	**1.0**		0.10	5		12/16/11 11:38		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Sample: CONFLUENCE **Lab ID: 60112246003** Collected: 12/15/11 15:18 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:29		
Surrogates								
p-Terphenyl (S)	66	%	20-122	1	12/16/11 00:00	12/16/11 12:29	92-94-4	
n-Tetracosane (S)	69	%	30-122	1	12/16/11 00:00	12/16/11 12:29	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/16/11 11:52		
Benzene	**2.5**	ug/L	1.0	1		12/16/11 11:52	71-43-2	
Toluene	**25.5**	ug/L	1.0	1		12/16/11 11:52	108-88-3	
Ethylbenzene	**7.0**	ug/L	1.0	1		12/16/11 11:52	100-41-4	
Xylene (Total)	**45.1**	ug/L	3.0	1		12/16/11 11:52	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 11:52	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/16/11 11:52	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/16/11 11:52	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		12/16/11 11:52	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119	1		12/16/11 11:52	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 11:52		

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ANALYTICAL RESULTS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Sample: SW-3 **Lab ID: 60112246004** Collected: 12/15/11 15:38 Received: 12/15/11 19:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/16/11 00:00	12/16/11 12:41		
Surrogates								
p-Terphenyl (S)	55	%	20-122	1	12/16/11 00:00	12/16/11 12:41	92-94-4	
n-Tetracosane (S)	56	%	30-122	1	12/16/11 00:00	12/16/11 12:41	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/16/11 12:06		
Benzene	ND	ug/L	1.0	1		12/16/11 12:06	71-43-2	
Toluene	**5.6**	ug/L	1.0	1		12/16/11 12:06	108-88-3	
Ethylbenzene	**1.7**	ug/L	1.0	1		12/16/11 12:06	100-41-4	
Xylene (Total)	**11.5**	ug/L	3.0	1		12/16/11 12:06	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/16/11 12:06	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		12/16/11 12:06	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/16/11 12:06	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		12/16/11 12:06	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		12/16/11 12:06	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/16/11 12:06		

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

QC Batch: MSV/42532 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112246001, 60112246002, 60112246003, 60112246004

METHOD BLANK: 927716 Matrix: Water
Associated Lab Samples: 60112246001, 60112246002, 60112246003, 60112246004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/16/11 09:44	
Ethylbenzene	ug/L	ND	1.0	12/16/11 09:44	
Gasoline Range Organics	mg/L	ND	0.50	12/16/11 09:44	
n-Hexane	ug/L	ND	10.0	12/16/11 09:44	
Toluene	ug/L	ND	1.0	12/16/11 09:44	
Xylene (Total)	ug/L	ND	3.0	12/16/11 09:44	
1,2-Dichloroethane-d4 (S)	%	103	82-119	12/16/11 09:44	
4-Bromofluorobenzene (S)	%	101	87-113	12/16/11 09:44	
Dibromofluoromethane (S)	%	104	86-112	12/16/11 09:44	
Toluene-d8 (S)	%	98	90-110	12/16/11 09:44	

LABORATORY CONTROL SAMPLE: 927717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	82-117	
Ethylbenzene	ug/L	20	19.5	97	79-121	
Gasoline Range Organics	mg/L	4	4.0	99	63-139	
n-Hexane	ug/L	20	20.2	101	43-118	
Toluene	ug/L	20	19.3	97	80-120	
Xylene (Total)	ug/L	60	58.5	97	79-120	
1,2-Dichloroethane-d4 (S)	%			100	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			104	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

QC Batch: OEXT/31501 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112246001, 60112246002, 60112246003, 60112246004

METHOD BLANK: 927722 Matrix: Water
Associated Lab Samples: 60112246001, 60112246002, 60112246003, 60112246004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/16/11 11:44	
Fuel Oil	mg/L	ND	0.40	12/16/11 11:44	
Jet Fuel	mg/L	ND	0.40	12/16/11 11:44	
Kerosene	mg/L	ND	0.40	12/16/11 11:44	
Mineral Spirits	mg/L	ND	0.40	12/16/11 11:44	
Motor Oil	mg/L	ND	0.40	12/16/11 11:44	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/16/11 11:44	
n-Tetracosane (S)	%	60	30-122	12/16/11 11:44	
p-Terphenyl (S)	%	71	20-122	12/16/11 11:44	

LABORATORY CONTROL SAMPLE: 927723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.1	82	47-122	
n-Tetracosane (S)	%			69	30-122	
p-Terphenyl (S)	%			71	20-122	

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QUALIFIERS

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/42532

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/31501

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early gasoline to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN NEMAHA
Pace Project No.: 60112246

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112246001	SW-1	OA2	OEXT/31501	OA2	GCSV/11709
60112246002	SW-2	OA2	OEXT/31501	OA2	GCSV/11709
60112246003	CONFLUENCE	OA2	OEXT/31501	OA2	GCSV/11709
60112246004	SW-3	OA2	OEXT/31501	OA2	GCSV/11709
60112246001	SW-1	EPA 8260/OA1	MSV/42532		
60112246002	SW-2	EPA 8260/OA1	MSV/42532		
60112246003	CONFLUENCE	EPA 8260/OA1	MSV/42532		
60112246004	SW-3	EPA 8260/OA1	MSV/42532		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address: 9608 Loiret
City/State/Zip: Lenexa, KS
Telephone: (913) 599-5665

Document Control No: 121511A
Lab. Reference No. or Episode No.:

Project Number:

Client Name: Magellan

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Sample Type: Matrix: Liquid	Sample Type: Matrix: Solid	Sample Type: Matrix: Gas	Number of Containers	Analysis: BTEX by OA-1	Analysis: TEH by OA-2					Remarks
	SW-1						12/15/11	1325	X			4	X	X	1AG11U,			3DG9H	001
	SW-2						12/15/11	1455	X			4	X	X	↓			↓	002
	Confluence						12/15/11	1518	X			4	X	X	↓			↓	003
	SW-3						12/15/11	1538	X			4	X	X	↓			↓	004

60112246

Sampler (signature): Rusty Parkhurst
Rusty Parkhurst

Sampler (signature):

Special Instructions: Rush

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time
1. Rusty Parkhurst	12/15/11 1630	E Brockett	12/15 1630
2. E Brockett	12/15 1630		

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 1.9, 3.5

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: Burns & McDonnell Project # 60112246

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/16/11
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.9, 3.5

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 12/16/11

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. ASAP
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 12/16/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

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December 19, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mary Jane Walls for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112312001	SW-1	Water	12/16/11 08:50	12/16/11 16:15
60112312002	SW-2	Water	12/16/11 09:14	12/16/11 16:15
60112312003	CONFLUENCE	Water	12/16/11 09:26	12/16/11 16:15
60112312004	JARVIS CK CONFLUENCE	Water	12/16/11 10:20	12/16/11 16:15
60112312005	SW-3	Water	12/16/11 10:48	12/16/11 16:15
60112312006	L NEMAHA UPSTREAM	Water	12/16/11 11:05	12/16/11 16:15
60112312007	L NEMAHA DOWNSTREAM	Water	12/16/11 11:35	12/16/11 16:15

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SAMPLE ANALYTE COUNT

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112312001	SW-1	OA2	NAW	9
		EPA 8260/OA1	JDM	11
60112312002	SW-2	OA2	NAW	9
		EPA 8260/OA1	JDM	11
60112312003	CONFLUENCE	OA2	NAW	9
		EPA 8260/OA1	JDM	11
60112312004	JARVIS CK CONFLUENCE	OA2	NAW	9
		EPA 8260/OA1	JDM	11
60112312005	SW-3	OA2	NAW	9
		EPA 8260/OA1	JDM	11
60112312006	L NEMAHA UPSTREAM	OA2	NAW	9
		EPA 8260/OA1	JDM	11
60112312007	L NEMAHA DOWNSTREAM	OA2	NAW	9
		EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: SW-1 **Lab ID: 60112312001** Collected: 12/16/11 08:50 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:07		
Surrogates								
p-Terphenyl (S)	80	%	20-122	1	12/19/11 00:00	12/19/11 15:07	92-94-4	
n-Tetracosane (S)	75	%	30-122	1	12/19/11 00:00	12/19/11 15:07	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 12:07		
Benzene	ND	ug/L	1.0	1		12/19/11 12:07	71-43-2	
Toluene	**10.5**	ug/L	1.0	1		12/19/11 12:07	108-88-3	
Ethylbenzene	**3.4**	ug/L	1.0	1		12/19/11 12:07	100-41-4	
Xylene (Total)	**19.5**	ug/L	3.0	1		12/19/11 12:07	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 12:07	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/19/11 12:07	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/19/11 12:07	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-113	1		12/19/11 12:07	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		12/19/11 12:07	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 12:07		

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: SW-2 **Lab ID: 60112312002** Collected: 12/16/11 09:14 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18	64742-65-0	
Total Petroleum Hydrocarbons	**5.6**	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:18		1e
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	12/19/11 00:00	12/19/11 15:18	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/19/11 00:00	12/19/11 15:18	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	2.5	5		12/19/11 12:22		
Benzene	**9.2**	ug/L	5.0	5		12/19/11 12:22	71-43-2	
Toluene	**107**	ug/L	5.0	5		12/19/11 12:22	108-88-3	
Ethylbenzene	**32.9**	ug/L	5.0	5		12/19/11 12:22	100-41-4	
Xylene (Total)	**208**	ug/L	15.0	5		12/19/11 12:22	1330-20-7	
n-Hexane	ND	ug/L	50.0	5		12/19/11 12:22	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	5		12/19/11 12:22	1868-53-7	
Toluene-d8 (S)	103	%	90-110	5		12/19/11 12:22	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	5		12/19/11 12:22	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	5		12/19/11 12:22	17060-07-0	
Preservation pH	**1.0**		0.10	5		12/19/11 12:22		

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: CONFLUENCE **Lab ID: 60112312003** Collected: 12/16/11 09:26 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:29		
Surrogates								
p-Terphenyl (S)	86	%	20-122	1	12/19/11 00:00	12/19/11 15:29	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	12/19/11 00:00	12/19/11 15:29	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 12:38		
Benzene	ND	ug/L	1.0	1		12/19/11 12:38	71-43-2	
Toluene	**8.4**	ug/L	1.0	1		12/19/11 12:38	108-88-3	
Ethylbenzene	**3.6**	ug/L	1.0	1		12/19/11 12:38	100-41-4	
Xylene (Total)	**23.7**	ug/L	3.0	1		12/19/11 12:38	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 12:38	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		12/19/11 12:38	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/19/11 12:38	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		12/19/11 12:38	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		12/19/11 12:38	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 12:38		

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: JARVIS CK CONFLUENCE **Lab ID: 60112312004** Collected: 12/16/11 10:20 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:41		
Surrogates								
p-Terphenyl (S)	89	%	20-122	1	12/19/11 00:00	12/19/11 15:41	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	12/19/11 00:00	12/19/11 15:41	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 12:53		
Benzene	ND	ug/L	1.0	1		12/19/11 12:53	71-43-2	
Toluene	ND	ug/L	1.0	1		12/19/11 12:53	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 12:53	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/19/11 12:53	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 12:53	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/19/11 12:53	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/19/11 12:53	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		12/19/11 12:53	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/19/11 12:53	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 12:53		

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: SW-3 **Lab ID: 60112312005** Collected: 12/16/11 10:48 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 15:52		
Surrogates								
p-Terphenyl (S)	91	%	20-122	1	12/19/11 00:00	12/19/11 15:52	92-94-4	
n-Tetracosane (S)	86	%	30-122	1	12/19/11 00:00	12/19/11 15:52	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 13:09		
Benzene	ND	ug/L	1.0	1		12/19/11 13:09	71-43-2	
Toluene	**2.6**	ug/L	1.0	1		12/19/11 13:09	108-88-3	
Ethylbenzene	**1.1**	ug/L	1.0	1		12/19/11 13:09	100-41-4	
Xylene (Total)	**7.5**	ug/L	3.0	1		12/19/11 13:09	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 13:09	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		12/19/11 13:09	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/19/11 13:09	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-113	1		12/19/11 13:09	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		12/19/11 13:09	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 13:09		

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: L NEMAHA UPSTREAM **Lab ID: 60112312006** Collected: 12/16/11 11:05 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:03		
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	12/19/11 00:00	12/19/11 16:03	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/19/11 00:00	12/19/11 16:03	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 13:24		
Benzene	ND	ug/L	1.0	1		12/19/11 13:24	71-43-2	
Toluene	ND	ug/L	1.0	1		12/19/11 13:24	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 13:24	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/19/11 13:24	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 13:24	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		12/19/11 13:24	1868-53-7	
Toluene-d8 (S)	105	%	90-110	1		12/19/11 13:24	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-113	1		12/19/11 13:24	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		12/19/11 13:24	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 13:24		

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ANALYTICAL RESULTS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60112312007** Collected: 12/16/11 11:35 Received: 12/16/11 16:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:14		
Surrogates								
p-Terphenyl (S)	91	%	20-122	1	12/19/11 00:00	12/19/11 16:14	92-94-4	
n-Tetracosane (S)	86	%	30-122	1	12/19/11 00:00	12/19/11 16:14	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 13:40		
Benzene	ND	ug/L	1.0	1		12/19/11 13:40	71-43-2	
Toluene	**1.1**	ug/L	1.0	1		12/19/11 13:40	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 13:40	100-41-4	
Xylene (Total)	**3.1**	ug/L	3.0	1		12/19/11 13:40	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 13:40	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		12/19/11 13:40	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/19/11 13:40	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-113	1		12/19/11 13:40	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/19/11 13:40	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 13:40		

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QUALITY CONTROL DATA

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

QC Batch: MSV/42563 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112312001, 60112312002, 60112312003, 60112312004, 60112312005, 60112312006, 60112312007

METHOD BLANK: 928825 Matrix: Water
Associated Lab Samples: 60112312001, 60112312002, 60112312003, 60112312004, 60112312005, 60112312006, 60112312007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/19/11 11:51	
Ethylbenzene	ug/L	ND	1.0	12/19/11 11:51	
Gasoline Range Organics	mg/L	ND	0.50	12/19/11 11:51	
n-Hexane	ug/L	ND	10.0	12/19/11 11:51	
Toluene	ug/L	ND	1.0	12/19/11 11:51	
Xylene (Total)	ug/L	ND	3.0	12/19/11 11:51	
1,2-Dichloroethane-d4 (S)	%	95	82-119	12/19/11 11:51	
4-Bromofluorobenzene (S)	%	95	87-113	12/19/11 11:51	
Dibromofluoromethane (S)	%	101	86-112	12/19/11 11:51	
Toluene-d8 (S)	%	103	90-110	12/19/11 11:51	

LABORATORY CONTROL SAMPLE: 928826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.1	85	82-117	
Ethylbenzene	ug/L	20	18.7	94	79-121	
Gasoline Range Organics	mg/L	4	4.0	99	63-139	
n-Hexane	ug/L	20	20.5	103	43-118	
Toluene	ug/L	20	17.6	88	80-120	
Xylene (Total)	ug/L	60	55.9	93	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			92	87-113	
Dibromofluoromethane (S)	%			102	86-112	
Toluene-d8 (S)	%			101	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

QC Batch: OEXT/31514 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112312001, 60112312002, 60112312003, 60112312004, 60112312005, 60112312006, 60112312007

METHOD BLANK: 928749 Matrix: Water
Associated Lab Samples: 60112312001, 60112312002, 60112312003, 60112312004, 60112312005, 60112312006, 60112312007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/19/11 14:44	
Fuel Oil	mg/L	ND	0.40	12/19/11 14:44	
Jet Fuel	mg/L	ND	0.40	12/19/11 14:44	
Kerosene	mg/L	ND	0.40	12/19/11 14:44	
Mineral Spirits	mg/L	ND	0.40	12/19/11 14:44	
Motor Oil	mg/L	ND	0.40	12/19/11 14:44	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/19/11 14:44	
n-Tetracosane (S)	%	72	30-122	12/19/11 14:44	
p-Terphenyl (S)	%	86	20-122	12/19/11 14:44	

LABORATORY CONTROL SAMPLE: 928750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.3	86	47-122	
n-Tetracosane (S)	%			70	30-122	
p-Terphenyl (S)	%			89	20-122	

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QUALIFIERS

Project: MAGELLAN-Nemaha
Pace Project No.: 60112312

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31514

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42563

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN-Nemaha
Pace Project No.: 60 112312

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112312001	SW-1	OA2	OEXT/31514	OA2	GCSV/11718
60112312002	SW-2	OA2	OEXT/31514	OA2	GCSV/11718
60112312003	CONFLUENCE	OA2	OEXT/31514	OA2	GCSV/11718
60112312004	JARVIS CK CONFLUENCE	OA2	OEXT/31514	OA2	GCSV/11718
60112312005	SW-3	OA2	OEXT/31514	OA2	GCSV/11718
60112312006	L NEMAHA UPSTREAM	OA2	OEXT/31514	OA2	GCSV/11718
60112312007	L NEMAHA DOWNSTREAM	OA2	OEXT/31514	OA2	GCSV/11718
60112312001	SW-1	EPA 8260/OA1	MSV/42563		
60112312002	SW-2	EPA 8260/OA1	MSV/42563		
60112312003	CONFLUENCE	EPA 8260/OA1	MSV/42563		
60112312004	JARVIS CK CONFLUENCE	EPA 8260/OA1	MSV/42563		
60112312005	SW-3	EPA 8260/OA1	MSV/42563		
60112312006	L NEMAHA UPSTREAM	EPA 8260/OA1	MSV/42563		
60112312007	L NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42563		

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SINCE 1898
021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address: 9608 Loiret
City/State/Zip: Lenexa KS
Telephone: (913) 599-5665

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: \
Client Name: Magellan

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Sample Type: Matrix			Number of Containers	Analysis: BTEX by GA-1	Analysis: TEPH by GA-2					Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas								
	SW-1						12/16/11	0850	X			4	X	X					
	SW-2						12/16/11	0914	X			4	X	X					
	Confluence						12/16/11	0926	X			4	X	X					
	Jarvis CK Confluence						12/16/11	1020	X			4	X	X					
	SW-3						12/16/11	1043	X			4	X	X					
	L Nemaha Upstream						12/16/11	1105	X			4	X	X					
	L Nemaha Downstream						12/16/11	1135	X			4	X	X					

Sampler (signature): Rusty Parkhurst
Sampler (signature):
Special Instructions: * RUSH *

Relinquished By (signature): 1. Trevor Gustafson — Date/Time 12/16/11 1615 — Received By (signature): E Brokett — Date/Time 12/16 1615
Ice Present in Container: Yes ☐ No ☐
Temperature Upon Receipt: 3.6

Relinquished By (signature): 2. — Date/Time — Received By (signature): — Date/Time
Laboratory Comments:

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December 19, 2011

TREVOR GUSTAFSON_Rapid Response
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Dear TREVOR Response:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mary Jane Walls

Mary Jane Walls for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112417001	SW-1	Water	12/17/11 07:55	12/19/11 07:35
60112417002	SW-2	Water	12/17/11 08:10	12/19/11 07:35
60112417003	CONFLUENCE	Water	12/17/11 08:30	12/19/11 07:35
60112417004	JARVIS CREEK CONFLUENCE	Water	12/17/11 08:40	12/19/11 07:35
60112417005	SW-3	Water	12/17/11 09:10	12/19/11 07:35
60112417006	L. NEMAHA UPSTREAM	Water	12/17/11 09:30	12/19/11 07:35
60112417007	L. NEMAHA DOWNSTREAM	Water	12/17/11 10:00	12/19/11 07:35

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SAMPLE ANALYTE COUNT

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112417001	SW-1	OA2	NAW	9
		EPA 8260/OA1	PRG	11
60112417002	SW-2	OA2	NAW	9
		EPA 8260/OA1	PRG	11
60112417003	CONFLUENCE	OA2	NAW	9
		EPA 8260/OA1	PRG	11
60112417004	JARVIS CREEK CONFLUENCE	OA2	NAW	9
		EPA 8260/OA1	PRG	11
60112417005	SW-3	OA2	NAW	9
		EPA 8260/OA1	PRG	11
60112417006	L. NEMAHA UPSTREAM	OA2	NAW	9
		EPA 8260/OA1	PRG	11
60112417007	L. NEMAHA DOWNSTREAM	OA2	NAW	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: SW-1 **Lab ID: 60112417001** Collected: 12/17/11 07:55 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:25		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	12/19/11 00:00	12/19/11 16:25	92-94-4	
n-Tetracosane (S)	78	%	30-122	1	12/19/11 00:00	12/19/11 16:25	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 09:40		
Benzene	ND	ug/L	1.0	1		12/19/11 09:40	71-43-2	
Toluene	**11.0**	ug/L	1.0	1		12/19/11 09:40	108-88-3	
Ethylbenzene	**3.3**	ug/L	1.0	1		12/19/11 09:40	100-41-4	
Xylene (Total)	**18.6**	ug/L	3.0	1		12/19/11 09:40	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 09:40	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		12/19/11 09:40	1868-53-7	
Toluene-d8 (S)	95	%	90-110	1		12/19/11 09:40	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		12/19/11 09:40	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		12/19/11 09:40	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 09:40		

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: SW-2 **Lab ID: 60112417002** Collected: 12/17/11 08:10 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37	64742-65-0	
Total Petroleum Hydrocarbons	**1.0**	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:37		1e
Surrogates								
p-Terphenyl (S)	86	%	20-122	1	12/19/11 00:00	12/19/11 16:37	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	12/19/11 00:00	12/19/11 16:37	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**0.84**	mg/L	0.50	1		12/19/11 09:54		
Benzene	**2.6**	ug/L	1.0	1		12/19/11 09:54	71-43-2	
Toluene	**50.9**	ug/L	1.0	1		12/19/11 09:54	108-88-3	
Ethylbenzene	**19.6**	ug/L	1.0	1		12/19/11 09:54	100-41-4	
Xylene (Total)	**112**	ug/L	3.0	1		12/19/11 09:54	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 09:54	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		12/19/11 09:54	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		12/19/11 09:54	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/19/11 09:54	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		12/19/11 09:54	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 09:54		

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: CONFLUENCE **Lab ID: 60112417003** Collected: 12/17/11 08:30 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:48		
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	12/19/11 00:00	12/19/11 16:48	92-94-4	
n-Tetracosane (S)	81	%	30-122	1	12/19/11 00:00	12/19/11 16:48	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 10:09		
Benzene	ND	ug/L	1.0	1		12/19/11 10:09	71-43-2	
Toluene	**9.9**	ug/L	1.0	1		12/19/11 10:09	108-88-3	
Ethylbenzene	**3.7**	ug/L	1.0	1		12/19/11 10:09	100-41-4	
Xylene (Total)	**22.9**	ug/L	3.0	1		12/19/11 10:09	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 10:09	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/19/11 10:09	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		12/19/11 10:09	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/19/11 10:09	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119	1		12/19/11 10:09	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 10:09		

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: JARVIS CREEK CONFLUENCE **Lab ID: 60112417004** Collected: 12/17/11 08:40 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 16:59		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	12/19/11 00:00	12/19/11 16:59	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	12/19/11 00:00	12/19/11 16:59	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 10:23		
Benzene	ND	ug/L	1.0	1		12/19/11 10:23	71-43-2	
Toluene	ND	ug/L	1.0	1		12/19/11 10:23	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 10:23	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/19/11 10:23	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 10:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/19/11 10:23	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		12/19/11 10:23	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/19/11 10:23	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		12/19/11 10:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 10:23		

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: SW-3 **Lab ID: 60112417005** Collected: 12/17/11 09:10 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:10		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	12/19/11 00:00	12/19/11 17:10	92-94-4	
n-Tetracosane (S)	82	%	30-122	1	12/19/11 00:00	12/19/11 17:10	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 10:37		
Benzene	ND	ug/L	1.0	1		12/19/11 10:37	71-43-2	
Toluene	**1.7**	ug/L	1.0	1		12/19/11 10:37	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 10:37	100-41-4	
Xylene (Total)	**5.3**	ug/L	3.0	1		12/19/11 10:37	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 10:37	110-54-3	
Surrogates								
Dibromofluoromethane (S)	106	%	86-112	1		12/19/11 10:37	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		12/19/11 10:37	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/19/11 10:37	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/19/11 10:37	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 10:37		

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: L. NEMAHA UPSTREAM **Lab ID: 60112417006** Collected: 12/17/11 09:30 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:22		
Surrogates								
p-Terphenyl (S)	89	%	20-122	1	12/19/11 00:00	12/19/11 17:22	92-94-4	
n-Tetracosane (S)	80	%	30-122	1	12/19/11 00:00	12/19/11 17:22	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 10:52		
Benzene	ND	ug/L	1.0	1		12/19/11 10:52	71-43-2	
Toluene	ND	ug/L	1.0	1		12/19/11 10:52	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 10:52	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/19/11 10:52	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 10:52	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/19/11 10:52	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		12/19/11 10:52	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/19/11 10:52	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/19/11 10:52	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 10:52		

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ANALYTICAL RESULTS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Sample: L. NEMAHA DOWNSTREAM **Lab ID: 60112417007** Collected: 12/17/11 10:00 Received: 12/19/11 07:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/19/11 00:00	12/19/11 17:33		
Surrogates								
p-Terphenyl (S)	88	%	20-122	1	12/19/11 00:00	12/19/11 17:33	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	12/19/11 00:00	12/19/11 17:33	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/19/11 11:06		
Benzene	ND	ug/L	1.0	1		12/19/11 11:06	71-43-2	
Toluene	ND	ug/L	1.0	1		12/19/11 11:06	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/19/11 11:06	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/19/11 11:06	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/19/11 11:06	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/19/11 11:06	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		12/19/11 11:06	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/19/11 11:06	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/19/11 11:06	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/19/11 11:06		

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QUALITY CONTROL DATA

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

QC Batch: MSV/42564 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112417001, 60112417002, 60112417003, 60112417004, 60112417005, 60112417006, 60112417007

METHOD BLANK: 928827 Matrix: Water
Associated Lab Samples: 60112417001, 60112417002, 60112417003, 60112417004, 60112417005, 60112417006, 60112417007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/19/11 09:26	
Ethylbenzene	ug/L	ND	1.0	12/19/11 09:26	
Gasoline Range Organics	mg/L	ND	0.50	12/19/11 09:26	
n-Hexane	ug/L	ND	10.0	12/19/11 09:26	
Toluene	ug/L	ND	1.0	12/19/11 09:26	
Xylene (Total)	ug/L	ND	3.0	12/19/11 09:26	
1,2-Dichloroethane-d4 (S)	%	105	82-119	12/19/11 09:26	
4-Bromofluorobenzene (S)	%	97	87-113	12/19/11 09:26	
Dibromofluoromethane (S)	%	106	86-112	12/19/11 09:26	
Toluene-d8 (S)	%	96	90-110	12/19/11 09:26	

LABORATORY CONTROL SAMPLE: 928828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.8	99	82-117	
Ethylbenzene	ug/L	20	19.5	97	79-121	
Gasoline Range Organics	mg/L	4	3.9	97	63-139	
n-Hexane	ug/L	20	20.1	100	43-118	
Toluene	ug/L	20	18.9	94	80-120	
Xylene (Total)	ug/L	60	57.2	95	79-120	
1,2-Dichloroethane-d4 (S)	%			106	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			105	86-112	
Toluene-d8 (S)	%			96	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

QC Batch: OEXT/31514 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112417001, 60112417002, 60112417003, 60112417004, 60112417005, 60112417006, 60112417007

METHOD BLANK: 928749 Matrix: Water
Associated Lab Samples: 60112417001, 60112417002, 60112417003, 60112417004, 60112417005, 60112417006, 60112417007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/19/11 14:44	
Fuel Oil	mg/L	ND	0.40	12/19/11 14:44	
Jet Fuel	mg/L	ND	0.40	12/19/11 14:44	
Kerosene	mg/L	ND	0.40	12/19/11 14:44	
Mineral Spirits	mg/L	ND	0.40	12/19/11 14:44	
Motor Oil	mg/L	ND	0.40	12/19/11 14:44	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/19/11 14:44	
n-Tetracosane (S)	%	72	30-122	12/19/11 14:44	
p-Terphenyl (S)	%	86	20-122	12/19/11 14:44	

LABORATORY CONTROL SAMPLE: 928750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.3	86	47-122	
n-Tetracosane (S)	%			70	30-122	
p-Terphenyl (S)	%			89	20-122	

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QUALIFIERS

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31514

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42564

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN-NEMAHA
Pace Project No.: 60112417

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112417001	SW-1	OA2	OEXT/31514	OA2	GCSV/11718
60112417002	SW-2	OA2	OEXT/31514	OA2	GCSV/11718
60112417003	CONFLUENCE	OA2	OEXT/31514	OA2	GCSV/11718
60112417004	JARVIS CREEK CONFLUENCE	OA2	OEXT/31514	OA2	GCSV/11718
60112417005	SW-3	OA2	OEXT/31514	OA2	GCSV/11718
60112417006	L. NEMAHA UPSTREAM	OA2	OEXT/31514	OA2	GCSV/11718
60112417007	L. NEMAHA DOWNSTREAM	OA2	OEXT/31514	OA2	GCSV/11718
60112417001	SW-1	EPA 8260/OA1	MSV/42564		
60112417002	SW-2	EPA 8260/OA1	MSV/42564		
60112417003	CONFLUENCE	EPA 8260/OA1	MSV/42564		
60112417004	JARVIS CREEK CONFLUENCE	EPA 8260/OA1	MSV/42564		
60112417005	SW-3	EPA 8260/OA1	MSV/42564		
60112417006	L. NEMAHA UPSTREAM	EPA 8260/OA1	MSV/42564		
60112417007	L. NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42564		

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Burns & McDonnell
SINCE 1898
021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383
Client Name: Magellan - Nemaha

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Sample Type: Matrix			Number of Containers	Analysis: BTEX (OA-1)	Analysis: TEH (OA-2)					Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas								
Nemaha	SW-1						12/17/11	0755	X			4	X	X					
Nemaha	SW-2						12/17/11	0810	X			4	X	X					
Nemaha	Confluence						12/17/11	0830	X			4	X	X					
Nemaha	Jarvis Creek Confluence						12/17/11	0840	X			4	X	X					
Nemaha	SW-3						12/17/11	0910	X			4	X	X					
Nemaha	L. Nemaha Upstream						12/17/11	0930	X			4	X	X					
Nemaha	L. Nemaha Downstream						12/17/11	1000	X			4	X	X					

Sampler (signature): Kyle Ferris

Sampler (signature):

Special Instructions: RUSH

Relinquished By (signature): 1. Kyle Ferris — Date/Time 12/19/11 0735

Received By (signature): — Date/Time

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 4.9°C

Relinquished By (signature): 2. — Date/Time

Received By (signature): — Date/Time

Laboratory Comments:

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December 20, 2011

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Dear Mr. Gustafson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112446001	SW-1	Water	12/18/11 14:20	12/19/11 16:03
60112446002	SW-2	Water	12/18/11 14:40	12/19/11 16:03
60112446003	CONFLUENCE	Water	12/18/11 15:00	12/19/11 16:03
60112446004	SW-3	Water	12/18/11 15:20	12/19/11 16:03
60112446005	L NEMAHA DOWNSTREAM	Water	12/18/11 15:40	12/19/11 16:03

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SAMPLE ANALYTE COUNT

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112446001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112446002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112446003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112446004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112446005	L NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Sample: SW-1 **Lab ID: 60112446001** Collected: 12/18/11 14:20 Received: 12/19/11 16:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:20		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	12/20/11 00:00	12/20/11 11:20	92-94-4	
n-Tetracosane (S)	81	%	30-122	1	12/20/11 00:00	12/20/11 11:20	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 09:39		
Benzene	ND	ug/L	1.0	1		12/20/11 09:39	71-43-2	
Toluene	**10.2**	ug/L	1.0	1		12/20/11 09:39	108-88-3	
Ethylbenzene	**3.1**	ug/L	1.0	1		12/20/11 09:39	100-41-4	
Xylene (Total)	**17.9**	ug/L	3.0	1		12/20/11 09:39	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 09:39	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		12/20/11 09:39	1868-53-7	
Toluene-d8 (S)	104	%	90-110	1		12/20/11 09:39	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/20/11 09:39	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	1		12/20/11 09:39	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 09:39		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Sample: SW-2 **Lab ID: 60112446002** Collected: 12/18/11 14:40 Received: 12/19/11 16:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31	64742-65-0	
Total Petroleum Hydrocarbons	**7.8**	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:31		1e
Surrogates								
p-Terphenyl (S)	91	%	20-122	1	12/20/11 00:00	12/20/11 11:31	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	12/20/11 00:00	12/20/11 11:31	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**1.2**	mg/L	0.50	1		12/20/11 09:54		
Benzene	**1.8**	ug/L	1.0	1		12/20/11 09:54	71-43-2	
Toluene	**29.7**	ug/L	1.0	1		12/20/11 09:54	108-88-3	
Ethylbenzene	**11.6**	ug/L	1.0	1		12/20/11 09:54	100-41-4	
Xylene (Total)	**72.0**	ug/L	3.0	1		12/20/11 09:54	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 09:54	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/20/11 09:54	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/20/11 09:54	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/20/11 09:54	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/20/11 09:54	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 09:54		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Sample: CONFLUENCE **Lab ID: 60112446003** Collected: 12/18/11 15:00 Received: 12/19/11 16:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	**0.53**	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:42		
Surrogates								
p-Terphenyl (S)	89	%	20-122	1	12/20/11 00:00	12/20/11 11:42	92-94-4	
n-Tetracosane (S)	90	%	30-122	1	12/20/11 00:00	12/20/11 11:42	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 10:09		
Benzene	ND	ug/L	1.0	1		12/20/11 10:09	71-43-2	
Toluene	**3.3**	ug/L	1.0	1		12/20/11 10:09	108-88-3	
Ethylbenzene	**1.4**	ug/L	1.0	1		12/20/11 10:09	100-41-4	
Xylene (Total)	**8.2**	ug/L	3.0	1		12/20/11 10:09	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 10:09	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		12/20/11 10:09	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/20/11 10:09	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/20/11 10:09	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		12/20/11 10:09	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 10:09		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Sample: SW-3 **Lab ID: 60112446004** Collected: 12/18/11 15:20 Received: 12/19/11 16:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 11:54		
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	12/20/11 00:00	12/20/11 11:54	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/20/11 00:00	12/20/11 11:54	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 10:24		
Benzene	ND	ug/L	1.0	1		12/20/11 10:24	71-43-2	
Toluene	**1.0**	ug/L	1.0	1		12/20/11 10:24	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/20/11 10:24	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/20/11 10:24	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 10:24	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		12/20/11 10:24	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/20/11 10:24	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/20/11 10:24	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	1		12/20/11 10:24	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 10:24		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60112446005** Collected: 12/18/11 15:40 Received: 12/19/11 16:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:05		
Surrogates								
p-Terphenyl (S)	81	%	20-122	1	12/20/11 00:00	12/20/11 12:05	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/20/11 00:00	12/20/11 12:05	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 10:40		
Benzene	ND	ug/L	1.0	1		12/20/11 10:40	71-43-2	
Toluene	ND	ug/L	1.0	1		12/20/11 10:40	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/20/11 10:40	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/20/11 10:40	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 10:40	110-54-3	
Surrogates								
Dibromofluoromethane (S)	97	%	86-112	1		12/20/11 10:40	1868-53-7	
Toluene-d8 (S)	104	%	90-110	1		12/20/11 10:40	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/20/11 10:40	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	82-119	1		12/20/11 10:40	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 10:40		

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QUALITY CONTROL DATA

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

QC Batch: MSV/42601 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112446001, 60112446002, 60112446003, 60112446004, 60112446005

METHOD BLANK: 929350 Matrix: Water
Associated Lab Samples: 60112446001, 60112446002, 60112446003, 60112446004, 60112446005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/20/11 09:23	
Ethylbenzene	ug/L	ND	1.0	12/20/11 09:23	
Gasoline Range Organics	mg/L	ND	0.50	12/20/11 09:23	
n-Hexane	ug/L	ND	10.0	12/20/11 09:23	
Toluene	ug/L	ND	1.0	12/20/11 09:23	
Xylene (Total)	ug/L	ND	3.0	12/20/11 09:23	
1,2-Dichloroethane-d4 (S)	%	92	82-119	12/20/11 09:23	
4-Bromofluorobenzene (S)	%	97	87-113	12/20/11 09:23	
Dibromofluoromethane (S)	%	98	86-112	12/20/11 09:23	
Toluene-d8 (S)	%	104	90-110	12/20/11 09:23	

LABORATORY CONTROL SAMPLE: 929351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.9	89	82-117	
Ethylbenzene	ug/L	20	20.0	100	79-121	
Gasoline Range Organics	mg/L	4	3.7	92	63-139	
n-Hexane	ug/L	20	20.6	103	43-118	
Toluene	ug/L	20	19.1	96	80-120	
Xylene (Total)	ug/L	60	60.3	100	79-120	
1,2-Dichloroethane-d4 (S)	%			96	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			104	90-110	

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QUALITY CONTROL DATA

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

QC Batch: OEXT/31532 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112446001, 60112446002, 60112446003, 60112446004, 60112446005

METHOD BLANK: 929348 Matrix: Water
Associated Lab Samples: 60112446001, 60112446002, 60112446003, 60112446004, 60112446005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/20/11 10:57	
Fuel Oil	mg/L	ND	0.40	12/20/11 10:57	
Jet Fuel	mg/L	ND	0.40	12/20/11 10:57	
Kerosene	mg/L	ND	0.40	12/20/11 10:57	
Mineral Spirits	mg/L	ND	0.40	12/20/11 10:57	
Motor Oil	mg/L	ND	0.40	12/20/11 10:57	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/20/11 10:57	
n-Tetracosane (S)	%	80	30-122	12/20/11 10:57	
p-Terphenyl (S)	%	80	20-122	12/20/11 10:57	

LABORATORY CONTROL SAMPLE: 929349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.2	83	47-122	
n-Tetracosane (S)	%			82	30-122	
p-Terphenyl (S)	%			84	20-122	

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QUALIFIERS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31532

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42601

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112446

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112446001	SW-1	OA2	OEXT/31532	OA2	GCSV/11722
60112446002	SW-2	OA2	OEXT/31532	OA2	GCSV/11722
60112446003	CONFLUENCE	OA2	OEXT/31532	OA2	GCSV/11722
60112446004	SW-3	OA2	OEXT/31532	OA2	GCSV/11722
60112446005	L NEMAHA DOWNSTREAM	OA2	OEXT/31532	OA2	GCSV/11722
60112446001	SW-1	EPA 8260/OA1	MSV/42601		
60112446002	SW-2	EPA 8260/OA1	MSV/42601		
60112446003	CONFLUENCE	EPA 8260/OA1	MSV/42601		
60112446004	SW-3	EPA 8260/OA1	MSV/42601		
60112446005	L NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42601		

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Burns & McDonnell
SINCE 1898
021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline MP 110 Nemaha County, NE

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Sample Type: Matrix: Liquid	Sample Type: Matrix: Solid	Sample Type: Matrix: Gas	Number of Containers	Analysis: BTEX (OA-1)	Analysis: n-Hexane (OA-2)	Analysis: TEH (OA-2)	Analysis: MAG24	Analysis: 3DGAH	Remarks
	SW-1						12/18/11	1420	X			4	X	X				001
	SW-2						12/18/11	1440	X			4	X	X				002
	Confluence						12/18/11	1500	X			4	X	X				003
	SW-3						12/18/11	1520	X			4	X	X				004
	L. Nemaha Downstream						12/18/11	1540	X			4	X	X				005

60112446

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions:

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
1.	12/19/11 1603	E Brockett	12/19 1603
2.			

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 0.3

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: B & M Project # 60112446

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/20
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.3

Date and Initials of person examining contents: PV 12-20-11

Temperature should be above freezing to 6°C

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. Same Day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MEW for AKB Date: 12/20/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

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Lenexa, KS 66219
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December 20, 2011

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Dear Mr. Gustafson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112447001	SW-1	Water	12/19/11 13:15	12/19/11 16:04
60112447002	SW-2	Water	12/19/11 13:40	12/19/11 16:04
60112447003	CONFLUENCE	Water	12/19/11 14:05	12/19/11 16:04
60112447004	SW-3	Water	12/19/11 14:30	12/19/11 16:04
60112447005	L NEMAHA DOWNSTREAM	Water	12/19/11 15:00	12/19/11 16:04

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SAMPLE ANALYTE COUNT

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112447001	SW-1	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112447002	SW-2	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112447003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112447004	SW-3	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60112447005	L NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Sample: SW-1 **Lab ID: 60112447001** Collected: 12/19/11 13:15 Received: 12/19/11 16:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:16		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	12/20/11 00:00	12/20/11 12:16	92-94-4	
n-Tetracosane (S)	77	%	30-122	1	12/20/11 00:00	12/20/11 12:16	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 09:44		
Benzene	ND	ug/L	1.0	1		12/20/11 09:44	71-43-2	
Toluene	**19.3**	ug/L	1.0	1		12/20/11 09:44	108-88-3	
Ethylbenzene	**5.4**	ug/L	1.0	1		12/20/11 09:44	100-41-4	
Xylene (Total)	**29.1**	ug/L	3.0	1		12/20/11 09:44	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 09:44	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/20/11 09:44	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/20/11 09:44	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		12/20/11 09:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		12/20/11 09:44	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 09:44		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Sample: SW-2 **Lab ID: 60112447002** Collected: 12/19/11 13:40 Received: 12/19/11 16:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	**1.5**	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:27		
Surrogates								
p-Terphenyl (S)	80	%	20-122	1	12/20/11 00:00	12/20/11 12:27	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/20/11 00:00	12/20/11 12:27	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**0.57**	mg/L	0.50	1		12/20/11 09:58		
Benzene	**1.4**	ug/L	1.0	1		12/20/11 09:58	71-43-2	
Toluene	**25.7**	ug/L	1.0	1		12/20/11 09:58	108-88-3	
Ethylbenzene	**11.3**	ug/L	1.0	1		12/20/11 09:58	100-41-4	
Xylene (Total)	**69.9**	ug/L	3.0	1		12/20/11 09:58	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 09:58	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/20/11 09:58	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/20/11 09:58	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/20/11 09:58	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/20/11 09:58	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 09:58		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Sample: CONFLUENCE **Lab ID: 60112447003** Collected: 12/19/11 14:05 Received: 12/19/11 16:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:38		
Surrogates								
p-Terphenyl (S)	80	%	20-122	1	12/20/11 00:00	12/20/11 12:38	92-94-4	
n-Tetracosane (S)	74	%	30-122	1	12/20/11 00:00	12/20/11 12:38	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 10:12		
Benzene	ND	ug/L	1.0	1		12/20/11 10:12	71-43-2	
Toluene	**2.9**	ug/L	1.0	1		12/20/11 10:12	108-88-3	
Ethylbenzene	**1.3**	ug/L	1.0	1		12/20/11 10:12	100-41-4	
Xylene (Total)	**8.6**	ug/L	3.0	1		12/20/11 10:12	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 10:12	110-54-3	
Surrogates								
Dibromofluoromethane (S)	107	%	86-112	1		12/20/11 10:12	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/20/11 10:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/20/11 10:12	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		12/20/11 10:12	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 10:12		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Sample: SW-3 **Lab ID: 60112447004** Collected: 12/19/11 14:30 Received: 12/19/11 16:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 12:50		
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	12/20/11 00:00	12/20/11 12:50	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	12/20/11 00:00	12/20/11 12:50	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 10:27		
Benzene	ND	ug/L	1.0	1		12/20/11 10:27	71-43-2	
Toluene	ND	ug/L	1.0	1		12/20/11 10:27	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/20/11 10:27	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/20/11 10:27	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 10:27	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		12/20/11 10:27	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		12/20/11 10:27	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/20/11 10:27	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		12/20/11 10:27	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 10:27		

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ANALYTICAL RESULTS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60112447005** Collected: 12/19/11 15:00 Received: 12/19/11 16:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/20/11 00:00	12/20/11 13:01		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	12/20/11 00:00	12/20/11 13:01	92-94-4	
n-Tetracosane (S)	81	%	30-122	1	12/20/11 00:00	12/20/11 13:01	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/20/11 10:41		
Benzene	ND	ug/L	1.0	1		12/20/11 10:41	71-43-2	
Toluene	ND	ug/L	1.0	1		12/20/11 10:41	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/20/11 10:41	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/20/11 10:41	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/20/11 10:41	110-54-3	
Surrogates								
Dibromofluoromethane (S)	107	%	86-112	1		12/20/11 10:41	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		12/20/11 10:41	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/20/11 10:41	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		12/20/11 10:41	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/20/11 10:41		

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QUALITY CONTROL DATA

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

QC Batch: MSV/42603 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112447001, 60112447002, 60112447003, 60112447004, 60112447005

METHOD BLANK: 929392 Matrix: Water
Associated Lab Samples: 60112447001, 60112447002, 60112447003, 60112447004, 60112447005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/20/11 09:27	
Ethylbenzene	ug/L	ND	1.0	12/20/11 09:27	
Gasoline Range Organics	mg/L	ND	0.50	12/20/11 09:27	
n-Hexane	ug/L	ND	10.0	12/20/11 09:27	
Toluene	ug/L	ND	1.0	12/20/11 09:27	
Xylene (Total)	ug/L	ND	3.0	12/20/11 09:27	
1,2-Dichloroethane-d4 (S)	%	103	82-119	12/20/11 09:27	
4-Bromofluorobenzene (S)	%	100	87-113	12/20/11 09:27	
Dibromofluoromethane (S)	%	105	86-112	12/20/11 09:27	
Toluene-d8 (S)	%	96	90-110	12/20/11 09:27	

LABORATORY CONTROL SAMPLE: 929393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.7	99	82-117	
Ethylbenzene	ug/L	20	18.5	93	79-121	
Gasoline Range Organics	mg/L	4	3.7	93	63-139	
n-Hexane	ug/L	20	17.0	85	43-118	
Toluene	ug/L	20	18.5	92	80-120	
Xylene (Total)	ug/L	60	55.1	92	79-120	
1,2-Dichloroethane-d4 (S)	%			102	82-119	
4-Bromofluorobenzene (S)	%			98	87-113	
Dibromofluoromethane (S)	%			107	86-112	
Toluene-d8 (S)	%			95	90-110	

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QUALITY CONTROL DATA

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

QC Batch: OEXT/31532 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112447001, 60112447002, 60112447003, 60112447004, 60112447005

METHOD BLANK: 929348 Matrix: Water
Associated Lab Samples: 60112447001, 60112447002, 60112447003, 60112447004, 60112447005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/20/11 10:57	
Fuel Oil	mg/L	ND	0.40	12/20/11 10:57	
Jet Fuel	mg/L	ND	0.40	12/20/11 10:57	
Kerosene	mg/L	ND	0.40	12/20/11 10:57	
Mineral Spirits	mg/L	ND	0.40	12/20/11 10:57	
Motor Oil	mg/L	ND	0.40	12/20/11 10:57	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/20/11 10:57	
n-Tetracosane (S)	%	80	30-122	12/20/11 10:57	
p-Terphenyl (S)	%	80	20-122	12/20/11 10:57	

LABORATORY CONTROL SAMPLE: 929349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.2	83	47-122	
n-Tetracosane (S)	%			82	30-122	
p-Terphenyl (S)	%			84	20-122	

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QUALIFIERS

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31532
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/42603
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 65383 MAGELLAN PIPELINE MP 110
Pace Project No.: 60112447

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112447001	SW-1	OA2	OEXT/31532	OA2	GCSV/11722
60112447002	SW-2	OA2	OEXT/31532	OA2	GCSV/11722
60112447003	CONFLUENCE	OA2	OEXT/31532	OA2	GCSV/11722
60112447004	SW-3	OA2	OEXT/31532	OA2	GCSV/11722
60112447005	L NEMAHA DOWNSTREAM	OA2	OEXT/31532	OA2	GCSV/11722
60112447001	SW-1	EPA 8260/OA1	MSV/42603		
60112447002	SW-2	EPA 8260/OA1	MSV/42603		
60112447003	CONFLUENCE	EPA 8260/OA1	MSV/42603		
60112447004	SW-3	EPA 8260/OA1	MSV/42603		
60112447005	L NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42603		

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Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: PACE
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383
Client Name: Magellan Pipeline MP110 Nemaha County, NE

Sample Type

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		DTEX [illegible] (OA-1)	TEH (OA-2)					
	SW-1						12/[illegible]	1315	X			4	X	X					
	SW-2						[illegible]	1340	X			4	X	X					
	Confluence						[illegible]	1405	X			4	X	X					
	SW-3						[illegible]	1430	X			4	X	X					
	Lemona Downstream						[illegible]	1500	X			4	X	X					

Sampler (signature): [signature]
Sampler (signature):
Special Instructions:

Relinquished By (signature): 1. [signature] Date/Time [illegible]
Received By (signature): E Brockett Date/Time 12/19/[illegible]
Ice Present in Container: Yes ☐ No ☐
Temperature Upon Receipt:

Relinquished By (signature): 2. Date/Time
Received By (signature): Date/Time
Laboratory Comments:

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December 22, 2011

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112580001	SW-1	Water	12/20/11 08:25	12/21/11 18:15
60112580002	SW-2	Water	12/20/11 08:45	12/21/11 18:15
60112580003	CONFLUENCE	Water	12/20/11 09:05	12/21/11 18:15
60112580004	SW-3	Water	12/20/11 09:25	12/21/11 18:15
60112580005	L NEMAHA DOWNSTREAM	Water	12/20/11 09:50	12/21/11 18:15
60112580006	TRIP BLANK	Water	12/20/11 00:00	12/21/11 18:15

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112580001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112580002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112580003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112580004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112580005	L NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112580006	TRIP BLANK	EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Sample: SW-1 **Lab ID: 60112580001** Collected: 12/20/11 08:25 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:13		
Surrogates								
p-Terphenyl (S)	72	%	20-122	1	12/22/11 00:00	12/22/11 12:13	92-94-4	
n-Tetracosane (S)	68	%	30-122	1	12/22/11 00:00	12/22/11 12:13	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 09:15		
Benzene	ND	ug/L	1.0	1		12/22/11 09:15	71-43-2	
Toluene	**7.8**	ug/L	1.0	1		12/22/11 09:15	108-88-3	
Ethylbenzene	**2.6**	ug/L	1.0	1		12/22/11 09:15	100-41-4	
Xylene (Total)	**14.0**	ug/L	3.0	1		12/22/11 09:15	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 09:15	110-54-3	
Surrogates								
Dibromofluoromethane (S)	97	%	86-112	1		12/22/11 09:15	1868-53-7	
Toluene-d8 (S)	104	%	90-110	1		12/22/11 09:15	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		12/22/11 09:15	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	82-119	1		12/22/11 09:15	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 09:15		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Sample: SW-2 **Lab ID: 60112580002** Collected: 12/20/11 08:45 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24	64742-65-0	
Total Petroleum Hydrocarbons	**4.4**	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:24		1e
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	12/22/11 00:00	12/22/11 12:24	92-94-4	
n-Tetracosane (S)	71	%	30-122	1	12/22/11 00:00	12/22/11 12:24	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	**0.69**	mg/L	0.50	1		12/22/11 09:30		
Benzene	ND	ug/L	1.0	1		12/22/11 09:30	71-43-2	
Toluene	**18.8**	ug/L	1.0	1		12/22/11 09:30	108-88-3	
Ethylbenzene	**9.4**	ug/L	1.0	1		12/22/11 09:30	100-41-4	
Xylene (Total)	**60.0**	ug/L	3.0	1		12/22/11 09:30	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 09:30	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/22/11 09:30	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/22/11 09:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/22/11 09:30	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		12/22/11 09:30	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 09:30		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Sample: CONFLUENCE **Lab ID: 60112580003** Collected: 12/20/11 09:05 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:35		
Surrogates								
p-Terphenyl (S)	69	%	20-122	1	12/22/11 00:00	12/22/11 12:35	92-94-4	
n-Tetracosane (S)	66	%	30-122	1	12/22/11 00:00	12/22/11 12:35	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 09:46		
Benzene	ND	ug/L	1.0	1		12/22/11 09:46	71-43-2	
Toluene	**2.7**	ug/L	1.0	1		12/22/11 09:46	108-88-3	
Ethylbenzene	**1.2**	ug/L	1.0	1		12/22/11 09:46	100-41-4	
Xylene (Total)	**8.4**	ug/L	3.0	1		12/22/11 09:46	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 09:46	110-54-3	
Surrogates								
Dibromofluoromethane (S)	96	%	86-112	1		12/22/11 09:46	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/22/11 09:46	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/22/11 09:46	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	1		12/22/11 09:46	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 09:46		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Sample: SW-3 **Lab ID: 60112580004** Collected: 12/20/11 09:25 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:46		
Surrogates								
p-Terphenyl (S)	75	%	20-122	1	12/22/11 00:00	12/22/11 12:46	92-94-4	
n-Tetracosane (S)	69	%	30-122	1	12/22/11 00:00	12/22/11 12:46	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 10:01		
Benzene	ND	ug/L	1.0	1		12/22/11 10:01	71-43-2	
Toluene	ND	ug/L	1.0	1		12/22/11 10:01	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 10:01	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/22/11 10:01	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 10:01	110-54-3	
Surrogates								
Dibromofluoromethane (S)	97	%	86-112	1		12/22/11 10:01	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/22/11 10:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/22/11 10:01	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/22/11 10:01	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 10:01		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60112580005** Collected: 12/20/11 09:50 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 12:58		
Surrogates								
p-Terphenyl (S)	69	%	20-122	1	12/22/11 00:00	12/22/11 12:58	92-94-4	
n-Tetracosane (S)	65	%	30-122	1	12/22/11 00:00	12/22/11 12:58	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 10:17		
Benzene	ND	ug/L	1.0	1		12/22/11 10:17	71-43-2	
Toluene	ND	ug/L	1.0	1		12/22/11 10:17	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 10:17	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/22/11 10:17	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 10:17	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/22/11 10:17	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/22/11 10:17	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/22/11 10:17	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		12/22/11 10:17	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 10:17		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Sample: TRIP BLANK **Lab ID: 60112580006** Collected: 12/20/11 00:00 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 10:32		
Benzene	ND	ug/L	1.0	1		12/22/11 10:32	71-43-2	
Toluene	ND	ug/L	1.0	1		12/22/11 10:32	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 10:32	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/22/11 10:32	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 10:32	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/22/11 10:32	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		12/22/11 10:32	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/22/11 10:32	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		12/22/11 10:32	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 10:32		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

QC Batch: MSV/42659 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112580001, 60112580002, 60112580003, 60112580004, 60112580005, 60112580006

METHOD BLANK: 930591 Matrix: Water
Associated Lab Samples: 60112580001, 60112580002, 60112580003, 60112580004, 60112580005, 60112580006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/22/11 09:00	
Ethylbenzene	ug/L	ND	1.0	12/22/11 09:00	
Gasoline Range Organics	mg/L	ND	0.50	12/22/11 09:00	
n-Hexane	ug/L	ND	10.0	12/22/11 09:00	
Toluene	ug/L	ND	1.0	12/22/11 09:00	
Xylene (Total)	ug/L	ND	3.0	12/22/11 09:00	
1,2-Dichloroethane-d4 (S)	%	94	82-119	12/22/11 09:00	
4-Bromofluorobenzene (S)	%	99	87-113	12/22/11 09:00	
Dibromofluoromethane (S)	%	95	86-112	12/22/11 09:00	
Toluene-d8 (S)	%	100	90-110	12/22/11 09:00	

LABORATORY CONTROL SAMPLE: 930592

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.6	88	82-117	
Ethylbenzene	ug/L	20	18.7	93	79-121	
Gasoline Range Organics	mg/L	4	3.7	93	63-139	
n-Hexane	ug/L	20	18.5	93	43-118	
Toluene	ug/L	20	17.7	88	80-120	
Xylene (Total)	ug/L	60	55.3	92	79-120	
1,2-Dichloroethane-d4 (S)	%			101	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

QC Batch: OEXT/31565 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112580001, 60112580002, 60112580003, 60112580004, 60112580005

METHOD BLANK: 930584 Matrix: Water
Associated Lab Samples: 60112580001, 60112580002, 60112580003, 60112580004, 60112580005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/22/11 11:50	
Fuel Oil	mg/L	ND	0.40	12/22/11 11:50	
Jet Fuel	mg/L	ND	0.40	12/22/11 11:50	
Kerosene	mg/L	ND	0.40	12/22/11 11:50	
Mineral Spirits	mg/L	ND	0.40	12/22/11 11:50	
Motor Oil	mg/L	ND	0.40	12/22/11 11:50	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/22/11 11:50	
n-Tetracosane (S)	%	58	30-122	12/22/11 11:50	
p-Terphenyl (S)	%	69	20-122	12/22/11 11:50	

LABORATORY CONTROL SAMPLE: 930585

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.1	83	47-122	
n-Tetracosane (S)	%			74	30-122	
p-Terphenyl (S)	%			79	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31565
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/42659
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112580

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112580001	SW-1	OA2	OEXT/31565	OA2	GCSV/11733
60112580002	SW-2	OA2	OEXT/31565	OA2	GCSV/11733
60112580003	CONFLUENCE	OA2	OEXT/31565	OA2	GCSV/11733
60112580004	SW-3	OA2	OEXT/31565	OA2	GCSV/11733
60112580005	L NEMAHA DOWNSTREAM	OA2	OEXT/31565	OA2	GCSV/11733
60112580001	SW-1	EPA 8260/OA1	MSV/42659		
60112580002	SW-2	EPA 8260/OA1	MSV/42659		
60112580003	CONFLUENCE	EPA 8260/OA1	MSV/42659		
60112580004	SW-3	EPA 8260/OA1	MSV/42659		
60112580005	L NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42659		
60112580006	TRIP BLANK	EPA 8260/OA1	MSV/42659		

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Sample Condition Upon Receipt

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Client Name: Burns & McDonnell Project # 60112580

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/22
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 3.0

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 12/22/11

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. ASAP
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): 112811-3		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: PACE
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline MP 110 NEMAHA County, NE

Sample Type

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX, n-Hexane (OA-1)	TEH (OA-2)					60112540
	SW-1	1A6114, 3DG9H					12/20/11	0825	X			4	X	X					01
	SW-2						12/20/11	0845	X			4	X	X					02
	Confluence						12/20/11	0905	X			4	X	X					03
	SW-3						12/20/11	0925	X			4	X	X					04
	Nemaha Downstream						12/20/11	0950	X			4	X	X					05
	Trip Blank		2DG9H (TB)				12/20/11	1000	X			2	X						06

Pace Package 16 of 16

Sampler (signature): Tom McCarty

Sampler (signature):

Special Instructions: RUSH TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time
1.	12/21/11 1540	E Brockett	12/21 1540
2. E Brockett	12/21 1815		12/21/11 1815

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 3.0

Laboratory Comments:

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December 22, 2011

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112581001	SW-1	Water	12/21/11 08:30	12/21/11 18:15
60112581002	SW-2	Water	12/21/11 08:50	12/21/11 18:15
60112581003	CONFLUENCE	Water	12/21/11 09:10	12/21/11 18:15
60112581004	SW-3	Water	12/21/11 09:35	12/21/11 18:15
60112581005	L NEMAHA DOWNSTREAM	Water	12/21/11 10:00	12/21/11 18:15
60112581006	TRIP BLANK	Water	12/21/11 00:00	12/21/11 18:15
60112581007	SP-1	Solid	12/21/11 14:30	12/21/11 18:15

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112581001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112581002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112581003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112581004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112581005	L NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60112581006	TRIP BLANK	EPA 8260/OA1	JDM	11
60112581007	SP-1	OA2	SDR	9
		OA1	RAB	1
		EPA 8260	RAB	9
		ASTM D2974-87	DWC	1

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: SW-1 **Lab ID: 60112581001** Collected: 12/21/11 08:30 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:09		
Surrogates								
p-Terphenyl (S)	68	%	20-122	1	12/22/11 00:00	12/22/11 13:09	92-94-4	
n-Tetracosane (S)	65	%	30-122	1	12/22/11 00:00	12/22/11 13:09	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 10:47		
Benzene	ND	ug/L	1.0	1		12/22/11 10:47	71-43-2	
Toluene	**6.4**	ug/L	1.0	1		12/22/11 10:47	108-88-3	
Ethylbenzene	**2.1**	ug/L	1.0	1		12/22/11 10:47	100-41-4	
Xylene (Total)	**11.1**	ug/L	3.0	1		12/22/11 10:47	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 10:47	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/22/11 10:47	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/22/11 10:47	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/22/11 10:47	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		12/22/11 10:47	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 10:47		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: SW-2 **Lab ID: 60112581002** Collected: 12/21/11 08:50 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20	64742-65-0	
Total Petroleum Hydrocarbons	**6.8**	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:20		1e
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	12/22/11 00:00	12/22/11 13:20	92-94-4	
n-Tetracosane (S)	71	%	30-122	1	12/22/11 00:00	12/22/11 13:20	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 11:02		
Benzene	ND	ug/L	1.0	1		12/22/11 11:02	71-43-2	
Toluene	**9.3**	ug/L	1.0	1		12/22/11 11:02	108-88-3	
Ethylbenzene	**4.2**	ug/L	1.0	1		12/22/11 11:02	100-41-4	
Xylene (Total)	**26.0**	ug/L	3.0	1		12/22/11 11:02	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 11:02	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		12/22/11 11:02	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		12/22/11 11:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/22/11 11:02	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	82-119	1		12/22/11 11:02	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 11:02		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: CONFLUENCE **Lab ID: 60112581003** Collected: 12/21/11 09:10 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:31		
Surrogates								
p-Terphenyl (S)	69	%	20-122	1	12/22/11 00:00	12/22/11 13:31	92-94-4	
n-Tetracosane (S)	65	%	30-122	1	12/22/11 00:00	12/22/11 13:31	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 11:18		
Benzene	ND	ug/L	1.0	1		12/22/11 11:18	71-43-2	
Toluene	**1.2**	ug/L	1.0	1		12/22/11 11:18	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 11:18	100-41-4	
Xylene (Total)	**3.6**	ug/L	3.0	1		12/22/11 11:18	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 11:18	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/22/11 11:18	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		12/22/11 11:18	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/22/11 11:18	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/22/11 11:18	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 11:18		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: SW-3 **Lab ID: 60112581004** Collected: 12/21/11 09:35 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:42		
Surrogates								
p-Terphenyl (S)	67	%	20-122	1	12/22/11 00:00	12/22/11 13:42	92-94-4	
n-Tetracosane (S)	64	%	30-122	1	12/22/11 00:00	12/22/11 13:42	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 11:33		
Benzene	ND	ug/L	1.0	1		12/22/11 11:33	71-43-2	
Toluene	ND	ug/L	1.0	1		12/22/11 11:33	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 11:33	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/22/11 11:33	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 11:33	110-54-3	
Surrogates								
Dibromofluoromethane (S)	97	%	86-112	1		12/22/11 11:33	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/22/11 11:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/22/11 11:33	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		12/22/11 11:33	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 11:33		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60112581005** Collected: 12/21/11 10:00 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/22/11 00:00	12/22/11 13:54		
Surrogates								
p-Terphenyl (S)	68	%	20-122	1	12/22/11 00:00	12/22/11 13:54	92-94-4	
n-Tetracosane (S)	64	%	30-122	1	12/22/11 00:00	12/22/11 13:54	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 11:49		
Benzene	ND	ug/L	1.0	1		12/22/11 11:49	71-43-2	
Toluene	ND	ug/L	1.0	1		12/22/11 11:49	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 11:49	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/22/11 11:49	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 11:49	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		12/22/11 11:49	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/22/11 11:49	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		12/22/11 11:49	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		12/22/11 11:49	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 11:49		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: TRIP BLANK **Lab ID: 60112581006** Collected: 12/21/11 00:00 Received: 12/21/11 18:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/22/11 12:04		
Benzene	ND	ug/L	1.0	1		12/22/11 12:04	71-43-2	
Toluene	ND	ug/L	1.0	1		12/22/11 12:04	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/22/11 12:04	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/22/11 12:04	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/22/11 12:04	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		12/22/11 12:04	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/22/11 12:04	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/22/11 12:04	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		12/22/11 12:04	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/11 12:04		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Sample: SP-1 **Lab ID: 60112581007** Collected: 12/21/11 14:30 Received: 12/21/11 18:15 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32	68334-30-5	
Fuel Oil	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32	68553-00-4	
Jet Fuel	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32	94114-58-6	
Kerosene	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32	8008-20-6	
Mineral Spirits	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32	8030-30-6	
Motor Oil	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.6	1	12/22/11 00:00	12/22/11 10:32		
Surrogates								
n-Tetracosane (S)	94	%	50-137	1	12/22/11 00:00	12/22/11 10:32	646-31-1	
p-Terphenyl (S)	93	%	41-129	1	12/22/11 00:00	12/22/11 10:32	92-94-4	
OA1 Volatile Pet. Hydrocarbons	Analytical Method: OA1							
Gasoline Range Organics	ND	mg/kg	1.3	1		12/22/11 09:38		
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
Benzene	ND	ug/kg	6.4	1		12/22/11 09:38	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		12/22/11 09:38	100-41-4	
n-Hexane	ND	ug/kg	6.4	1		12/22/11 09:38	110-54-3	
Toluene	**19.0**	ug/kg	6.4	1		12/22/11 09:38	108-88-3	
Xylene (Total)	**25.4**	ug/kg	6.4	1		12/22/11 09:38	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96	%	68-129	1		12/22/11 09:38	1868-53-7	
Toluene-d8 (S)	97	%	81-121	1		12/22/11 09:38	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-131	1		12/22/11 09:38	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	77-131	1		12/22/11 09:38	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**22.3**	%	0.50	1		12/22/11 00:00		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

QC Batch: MSV/42664
QC Batch Method: OA1
Analysis Method: OA1
Analysis Description: OA1 Volatile Pet. Hydrocarbon
Associated Lab Samples: 60112581007

METHOD BLANK: 930609
Matrix: Solid
Associated Lab Samples: 60112581007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	ND	1.0	12/22/11 09:22	

LABORATORY CONTROL SAMPLE: 930610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	4	4.1	102	69-131	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

QC Batch: MSV/42660 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112581001, 60112581002, 60112581003, 60112581004, 60112581005, 60112581006

METHOD BLANK: 930593 Matrix: Water
Associated Lab Samples: 60112581001, 60112581002, 60112581003, 60112581004, 60112581005, 60112581006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/22/11 09:00	
Ethylbenzene	ug/L	ND	1.0	12/22/11 09:00	
Gasoline Range Organics	mg/L	ND	0.50	12/22/11 09:00	
n-Hexane	ug/L	ND	10.0	12/22/11 09:00	
Toluene	ug/L	ND	1.0	12/22/11 09:00	
Xylene (Total)	ug/L	ND	3.0	12/22/11 09:00	
1,2-Dichloroethane-d4 (S)	%	94	82-119	12/22/11 09:00	
4-Bromofluorobenzene (S)	%	99	87-113	12/22/11 09:00	
Dibromofluoromethane (S)	%	95	86-112	12/22/11 09:00	
Toluene-d8 (S)	%	100	90-110	12/22/11 09:00	

LABORATORY CONTROL SAMPLE: 930594

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.6	88	82-117	
Ethylbenzene	ug/L	20	18.7	93	79-121	
Gasoline Range Organics	mg/L	4	3.7	93	63-139	
n-Hexane	ug/L	20	18.5	93	43-118	
Toluene	ug/L	20	17.7	88	80-120	
Xylene (Total)	ug/L	60	55.3	92	79-120	
1,2-Dichloroethane-d4 (S)	%			101	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

QC Batch: MSV/42663
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 60112581007

METHOD BLANK: 930607
Matrix: Solid
Associated Lab Samples: 60112581007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	12/22/11 09:22	
Ethylbenzene	ug/kg	ND	5.0	12/22/11 09:22	
n-Hexane	ug/kg	ND	5.0	12/22/11 09:22	
Toluene	ug/kg	ND	5.0	12/22/11 09:22	
Xylene (Total)	ug/kg	ND	5.0	12/22/11 09:22	
1,2-Dichloroethane-d4 (S)	%	102	77-131	12/22/11 09:22	
4-Bromofluorobenzene (S)	%	100	75-131	12/22/11 09:22	
Dibromofluoromethane (S)	%	95	68-129	12/22/11 09:22	
Toluene-d8 (S)	%	98	81-121	12/22/11 09:22	

LABORATORY CONTROL SAMPLE: 930608

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	102	102	84-119	
Ethylbenzene	ug/kg	100	103	103	80-120	
n-Hexane	ug/kg	100	110	110	53-132	
Toluene	ug/kg	100	99.5	100	83-117	
Xylene (Total)	ug/kg	300	305	102	80-120	
1,2-Dichloroethane-d4 (S)	%			104	77-131	
4-Bromofluorobenzene (S)	%			100	75-131	
Dibromofluoromethane (S)	%			98	68-129	
Toluene-d8 (S)	%			99	81-121	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

QC Batch: OEXT/31566 | Analysis Method: OA2
QC Batch Method: OA2 | Analysis Description: OA2 GCS
Associated Lab Samples: 60112581007

METHOD BLANK: 930597 | Matrix: Solid
Associated Lab Samples: 60112581007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	18.8	12/22/11 09:47	
Fuel Oil	mg/kg	ND	18.8	12/22/11 09:47	
Jet Fuel	mg/kg	ND	18.8	12/22/11 09:47	
Kerosene	mg/kg	ND	18.8	12/22/11 09:47	
Mineral Spirits	mg/kg	ND	18.8	12/22/11 09:47	
Motor Oil	mg/kg	ND	18.8	12/22/11 09:47	
Total Petroleum Hydrocarbons	mg/kg	ND	18.8	12/22/11 09:47	
n-Tetracosane (S)	%	102	50-137	12/22/11 09:47	
p-Terphenyl (S)	%	99	41-129	12/22/11 09:47	

LABORATORY CONTROL SAMPLE: 930598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	491	493	100	66-138	
n-Tetracosane (S)	%			98	50-137	
p-Terphenyl (S)	%			97	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 930599 930600

Parameter	Units	60112581007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	542	623	569	661	105	106	56-154	15	27	
n-Tetracosane (S)	%						96	100	50-137			
p-Terphenyl (S)	%						97	99	41-129			

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

QC Batch: OEXT/31565 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112581001, 60112581002, 60112581003, 60112581004, 60112581005

METHOD BLANK: 930584 Matrix: Water
Associated Lab Samples: 60112581001, 60112581002, 60112581003, 60112581004, 60112581005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/22/11 11:50	
Fuel Oil	mg/L	ND	0.40	12/22/11 11:50	
Jet Fuel	mg/L	ND	0.40	12/22/11 11:50	
Kerosene	mg/L	ND	0.40	12/22/11 11:50	
Mineral Spirits	mg/L	ND	0.40	12/22/11 11:50	
Motor Oil	mg/L	ND	0.40	12/22/11 11:50	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/22/11 11:50	
n-Tetracosane (S)	%	58	30-122	12/22/11 11:50	
p-Terphenyl (S)	%	69	20-122	12/22/11 11:50	

LABORATORY CONTROL SAMPLE: 930585

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.1	83	47-122	
n-Tetracosane (S)	%			74	30-122	
p-Terphenyl (S)	%			79	20-122	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

QC Batch: PMST/6871
QC Batch Method: ASTM D2974-87
Associated Lab Samples: 60112581007

Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture

METHOD BLANK: 930611
Matrix: Solid
Associated Lab Samples: 60112581007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	12/22/11 00:00	

SAMPLE DUPLICATE: 930612

Parameter	Units	60112581007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	22.3	21.9	2	20	

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QUALIFIERS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31565

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42660

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42663

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42664

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to early motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60112581

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112581007	**SP-1**	OA2	OEXT/31566	OA2	GCSV/11732
60112581001	**SW-1**	OA2	OEXT/31565	OA2	GCSV/11733
60112581002	**SW-2**	OA2	OEXT/31565	OA2	GCSV/11733
60112581003	**CONFLUENCE**	OA2	OEXT/31565	OA2	GCSV/11733
60112581004	**SW-3**	OA2	OEXT/31565	OA2	GCSV/11733
60112581005	**L NEMAHA DOWNSTREAM**	OA2	OEXT/31565	OA2	GCSV/11733
60112581007	**SP-1**	OA1	MSV/42664		
60112581001	**SW-1**	EPA 8260/OA1	MSV/42660		
60112581002	**SW-2**	EPA 8260/OA1	MSV/42660		
60112581003	**CONFLUENCE**	EPA 8260/OA1	MSV/42660		
60112581004	**SW-3**	EPA 8260/OA1	MSV/42660		
60112581005	**L NEMAHA DOWNSTREAM**	EPA 8260/OA1	MSV/42660		
60112581006	**TRIP BLANK**	EPA 8260/OA1	MSV/42660		
60112581007	**SP-1**	EPA 8260	MSV/42663		
60112581007	**SP-1**	ASTM D2974-87	PMST/6871		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Travis Gustafson

Laboratory: PACE

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline MP110 Nemaha County, NE

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Sample Type: Matrix: Liquid	Sample Type: Matrix: Solid	Sample Type: Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (GA)	Analysis: TEH (GA-2)					Remarks: 60112581
	SW-1		1A61U,	3D69H			12/21/11	0830	X			4	X	X					01
	SW-2		1A62U	↓			12/21/11	0850	X			4	X	X					02
	Confluence		↓	↓			12/21/11	0910	X			4	X	X					03
	SW-3						12/21/11	0935	X			4	X	X					04
	LNEMAHA Downstream		↓	↓			12/21/11	1000	X			4	X	X					05
	Trip Blank			2D69H(TB)			12/21/11	0800	X			2	X						06
	SP-1			5W6FU			12/21/11	1430		X		5	X	X					07

Sampler (signature): Tom Moriarty

Sampler (signature):

Special Instructions: RUSH TAT

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
1.	12/21/11 1550	E Brockett	12/21 1550
2. E Brockett	12/21 1815		12/21/11 1815

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 1.3

Laboratory Comments:

Sample Condition Upon Receipt

Pace Analytical
www.pacelabs.com

Client Name: Burns & McDonnell Project # 60112581

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 12/22
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.3

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 12/22/11

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. ASAP
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT & SL		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☑ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): 112811-3		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 12/22/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev 05, 19February2010

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December 29, 2011

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on December 28, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mary Jane Walls

Mary Jane Walls for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60112848001	SW-1	Water	12/28/11 09:45	12/28/11 16:35
60112848002	SW-2	Water	12/28/11 10:05	12/28/11 16:35
60112848003	CONFLUENCE	Water	12/28/11 10:25	12/28/11 16:35
60112848004	SW-3	Water	12/28/11 10:45	12/28/11 16:35
60112848005	L. NEMAHA DOWNSTREAM	Water	12/28/11 11:40	12/28/11 16:35

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SAMPLE ANALYTE COUNT

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60112848001	SW-1	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60112848002	SW-2	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60112848003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60112848004	SW-3	OA2	SDR	9
		EPA 8260/OA1	RNS	11
60112848005	L. NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	RNS	11

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ANALYTICAL RESULTS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Sample: SW-1 **Lab ID: 60112848001** Collected: 12/28/11 09:45 Received: 12/28/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:36		
Surrogates								
p-Terphenyl (S)	81	%	20-122	1	12/28/11 00:00	12/29/11 10:36	92-94-4	
n-Tetracosane (S)	73	%	30-122	1	12/28/11 00:00	12/29/11 10:36	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/29/11 10:56		
Benzene	ND	ug/L	1.0	1		12/29/11 10:56	71-43-2	
Toluene	**10**	ug/L	1.0	1		12/29/11 10:56	108-88-3	
Ethylbenzene	**4.4**	ug/L	1.0	1		12/29/11 10:56	100-41-4	
Xylene (Total)	**32.4**	ug/L	3.0	1		12/29/11 10:56	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/29/11 10:56	110-54-3	
Surrogates								
Dibromofluoromethane (S)	108	%	86-112	1		12/29/11 10:56	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		12/29/11 10:56	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		12/29/11 10:56	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		12/29/11 10:56	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/29/11 10:56		

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ANALYTICAL RESULTS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Sample: SW-2 **Lab ID: 60112848002** Collected: 12/28/11 10:05 Received: 12/28/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:47		
Surrogates								
p-Terphenyl (S)	90	%	20-122	1	12/28/11 00:00	12/29/11 10:47	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	12/28/11 00:00	12/29/11 10:47	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/29/11 11:12		
Benzene	ND	ug/L	1.0	1		12/29/11 11:12	71-43-2	
Toluene	**10**	ug/L	1.0	1		12/29/11 11:12	108-88-3	
Ethylbenzene	**3.5**	ug/L	1.0	1		12/29/11 11:12	100-41-4	
Xylene (Total)	**20.9**	ug/L	3.0	1		12/29/11 11:12	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/29/11 11:12	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		12/29/11 11:12	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		12/29/11 11:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		12/29/11 11:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		12/29/11 11:12	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/29/11 11:12		

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ANALYTICAL RESULTS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Sample: CONFLUENCE **Lab ID: 60112848003** Collected: 12/28/11 10:25 Received: 12/28/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 10:58		
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	12/28/11 00:00	12/29/11 10:58	92-94-4	
n-Tetracosane (S)	73	%	30-122	1	12/28/11 00:00	12/29/11 10:58	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/29/11 11:29		
Benzene	ND	ug/L	1.0	1		12/29/11 11:29	71-43-2	
Toluene	**1.2**	ug/L	1.0	1		12/29/11 11:29	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/29/11 11:29	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/29/11 11:29	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/29/11 11:29	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		12/29/11 11:29	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		12/29/11 11:29	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		12/29/11 11:29	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		12/29/11 11:29	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/29/11 11:29		

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ANALYTICAL RESULTS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Sample: SW-3 **Lab ID: 60112848004** Collected: 12/28/11 10:45 Received: 12/28/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:09		
Surrogates								
p-Terphenyl (S)	73	%	20-122	1	12/28/11 00:00	12/29/11 11:09	92-94-4	
n-Tetracosane (S)	71	%	30-122	1	12/28/11 00:00	12/29/11 11:09	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/29/11 11:45		
Benzene	ND	ug/L	1.0	1		12/29/11 11:45	71-43-2	
Toluene	ND	ug/L	1.0	1		12/29/11 11:45	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/29/11 11:45	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/29/11 11:45	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/29/11 11:45	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		12/29/11 11:45	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		12/29/11 11:45	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/29/11 11:45	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		12/29/11 11:45	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/29/11 11:45		

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ANALYTICAL RESULTS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Sample: L. NEMAHA DOWNSTREAM **Lab ID: 60112848005** Collected: 12/28/11 11:40 Received: 12/28/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20	94114-58-6	
Kerosene	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	12/28/11 00:00	12/29/11 11:20		
Surrogates								
p-Terphenyl (S)	83	%	20-122	1	12/28/11 00:00	12/29/11 11:20	92-94-4	
n-Tetracosane (S)	75	%	30-122	1	12/28/11 00:00	12/29/11 11:20	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		12/29/11 12:01		
Benzene	ND	ug/L	1.0	1		12/29/11 12:01	71-43-2	
Toluene	ND	ug/L	1.0	1		12/29/11 12:01	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		12/29/11 12:01	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		12/29/11 12:01	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		12/29/11 12:01	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		12/29/11 12:01	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		12/29/11 12:01	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		12/29/11 12:01	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		12/29/11 12:01	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/29/11 12:01		

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QUALITY CONTROL DATA

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

QC Batch: MSV/42780 — Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 — Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60112848001, 60112848002, 60112848003, 60112848004, 60112848005

METHOD BLANK: 932971 — Matrix: Water
Associated Lab Samples: 60112848001, 60112848002, 60112848003, 60112848004, 60112848005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/29/11 10:39	
Ethylbenzene	ug/L	ND	1.0	12/29/11 10:39	
Gasoline Range Organics	mg/L	ND	0.50	12/29/11 10:39	
n-Hexane	ug/L	ND	10.0	12/29/11 10:39	
Toluene	ug/L	ND	1.0	12/29/11 10:39	
Xylene (Total)	ug/L	ND	3.0	12/29/11 10:39	
1,2-Dichloroethane-d4 (S)	%	104	82-119	12/29/11 10:39	
4-Bromofluorobenzene (S)	%	110	87-113	12/29/11 10:39	
Dibromofluoromethane (S)	%	102	86-112	12/29/11 10:39	
Toluene-d8 (S)	%	93	90-110	12/29/11 10:39	

LABORATORY CONTROL SAMPLE: 932972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.5	112	82-117	
Ethylbenzene	ug/L	20	21.1	105	79-121	
Gasoline Range Organics	mg/L	4	4.2	105	63-139	
n-Hexane	ug/L	20	25.9	129	43-118	L3
Toluene	ug/L	20	21.0	105	80-120	
Xylene (Total)	ug/L	60	64.5	108	79-120	
1,2-Dichloroethane-d4 (S)	%			107	82-119	
4-Bromofluorobenzene (S)	%			110	87-113	
Dibromofluoromethane (S)	%			108	86-112	
Toluene-d8 (S)	%			102	90-110	

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QUALITY CONTROL DATA

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

QC Batch: OEXT/31605 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60112848001, 60112848002, 60112848003, 60112848004, 60112848005

METHOD BLANK: 932725 Matrix: Water
Associated Lab Samples: 60112848001, 60112848002, 60112848003, 60112848004, 60112848005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	12/29/11 10:13	
Fuel Oil	mg/L	ND	0.40	12/29/11 10:13	
Jet Fuel	mg/L	ND	0.40	12/29/11 10:13	
Kerosene	mg/L	ND	0.40	12/29/11 10:13	
Mineral Spirits	mg/L	ND	0.40	12/29/11 10:13	
Motor Oil	mg/L	ND	0.40	12/29/11 10:13	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	12/29/11 10:13	
n-Tetracosane (S)	%	71	30-122	12/29/11 10:13	
p-Terphenyl (S)	%	78	20-122	12/29/11 10:13	

LABORATORY CONTROL SAMPLE: 932726

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.3	85	47-122	
n-Tetracosane (S)	%			67	30-122	
p-Terphenyl (S)	%			80	20-122	

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QUALIFIERS

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31605

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42780

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Magellan Pipeline Nemaha, NE
Pace Project No.: 60112848

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60112848001	SW-1	OA2	OEXT/31605	OA2	GCSV/11754
60112848002	SW-2	OA2	OEXT/31605	OA2	GCSV/11754
60112848003	CONFLUENCE	OA2	OEXT/31605	OA2	GCSV/11754
60112848004	SW-3	OA2	OEXT/31605	OA2	GCSV/11754
60112848005	L. NEMAHA DOWNSTREAM	OA2	OEXT/31605	OA2	GCSV/11754
60112848001	SW-1	EPA 8260/OA1	MSV/42780		
60112848002	SW-2	EPA 8260/OA1	MSV/42780		
60112848003	CONFLUENCE	EPA 8260/OA1	MSV/42780		
60112848004	SW-3	EPA 8260/OA1	MSV/42780		
60112848005	L. NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42780		

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Burns & McDonnell
SINCE 1898
021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No: 60112848
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Nemaha, NE

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Sample Type			Number of Containers	Analysis						Remarks	
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX n-Hexane (041)	TPH (042)						
	SW-1						12/28/11	0945	X			4	X	X					3(DCPA) 1(Azm)	001
	SW-2						12/28/11	1005	X			4	X	X						002
	Confluence						12/28/11	1025	X			4	X	X						003
	SW-3						12/28/11	1045	X			4	X	X						004
	L. Nemaha Downstream						12/28/11	1140	X			4	X	X						005

Sampler (signature): Trevor Gustafson
Trevor Gustafson

Sampler (signature):

Special Instructions: Rush TAT

Relinquished By (signature): 1. Trevor Gustafson
Date/Time 12/28/11 1635
Received By (signature): Tiffany
Date/Time 12/28/11 1635

Ice Present in Container: Yes [X] No [ ]
Temperature Upon Receipt: 4.4 °C

Relinquished By (signature): 2.
Date/Time
Received By (signature):
Date/Time

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: BMcD Project # 60112848

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☒ No

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No

Optional	
Proj. Due Date:	12/29
Proj. Name:	Magellan

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 4.4

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: JMS 12/28/11 1645

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: water		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed NA / Lot # of added preservative _____
Trip Blank present:	☑ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AKB Date: 12/28/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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January 06, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 05, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60113219001	SW-1	Water	01/05/12 09:00	01/05/12 17:45
60113219002	SW-2	Water	01/05/12 09:20	01/05/12 17:45
60113219003	CONFLUENCE	Water	01/05/12 09:40	01/05/12 17:45
60113219004	SW-3	Water	01/05/12 10:00	01/05/12 17:45
60113219005	L. NEMAHA DOWNSTREAM	Water	01/05/12 10:20	01/05/12 17:45

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SAMPLE ANALYTE COUNT

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60113219001	SW-1	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60113219002	SW-2	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60113219003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60113219004	SW-3	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60113219005	L. NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Sample: SW-1 **Lab ID: 60113219001** Collected: 01/05/12 09:00 Received: 01/05/12 17:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 09:53		
Surrogates								
p-Terphenyl (S)	86	%	20-122	1	01/05/12 00:00	01/06/12 09:53	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	01/05/12 00:00	01/06/12 09:53	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/06/12 09:46		
Benzene	ND	ug/L	1.0	1		01/06/12 09:46	71-43-2	
Toluene	**3.2**	ug/L	1.0	1		01/06/12 09:46	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/06/12 09:46	100-41-4	
Xylene (Total)	**6.2**	ug/L	3.0	1		01/06/12 09:46	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/06/12 09:46	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		01/06/12 09:46	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/06/12 09:46	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/06/12 09:46	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	1		01/06/12 09:46	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/06/12 09:46		

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ANALYTICAL RESULTS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Sample: SW-2 **Lab ID: 60113219002** Collected: 01/05/12 09:20 Received: 01/05/12 17:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:05		
Surrogates								
p-Terphenyl (S)	90	%	20-122	1	01/05/12 00:00	01/06/12 10:05	92-94-4	
n-Tetracosane (S)	91	%	30-122	1	01/05/12 00:00	01/06/12 10:05	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/06/12 10:01		
Benzene	ND	ug/L	1.0	1		01/06/12 10:01	71-43-2	
Toluene	**6.5**	ug/L	1.0	1		01/06/12 10:01	108-88-3	
Ethylbenzene	**2.1**	ug/L	1.0	1		01/06/12 10:01	100-41-4	
Xylene (Total)	**14.8**	ug/L	3.0	1		01/06/12 10:01	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/06/12 10:01	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		01/06/12 10:01	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/06/12 10:01	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		01/06/12 10:01	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		01/06/12 10:01	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/06/12 10:01		

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ANALYTICAL RESULTS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Sample: CONFLUENCE **Lab ID: 60113219003** Collected: 01/05/12 09:40 Received: 01/05/12 17:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:16		
Surrogates								
p-Terphenyl (S)	84	%	20-122	1	01/05/12 00:00	01/06/12 10:16	92-94-4	
n-Tetracosane (S)	85	%	30-122	1	01/05/12 00:00	01/06/12 10:16	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/06/12 10:15		
Benzene	ND	ug/L	1.0	1		01/06/12 10:15	71-43-2	
Toluene	ND	ug/L	1.0	1		01/06/12 10:15	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/06/12 10:15	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/06/12 10:15	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/06/12 10:15	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/06/12 10:15	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/06/12 10:15	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/06/12 10:15	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		01/06/12 10:15	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/06/12 10:15		

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ANALYTICAL RESULTS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Sample: SW-3 **Lab ID: 60113219004** Collected: 01/05/12 10:00 Received: 01/05/12 17:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:27		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	01/05/12 00:00	01/06/12 10:27	92-94-4	
n-Tetracosane (S)	86	%	30-122	1	01/05/12 00:00	01/06/12 10:27	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/06/12 10:29		
Benzene	ND	ug/L	1.0	1		01/06/12 10:29	71-43-2	
Toluene	ND	ug/L	1.0	1		01/06/12 10:29	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/06/12 10:29	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/06/12 10:29	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/06/12 10:29	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/06/12 10:29	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/06/12 10:29	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/06/12 10:29	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		01/06/12 10:29	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/06/12 10:29		

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ANALYTICAL RESULTS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Sample: L. NEMAHA DOWNSTREAM **Lab ID: 60113219005** Collected: 01/05/12 10:20 Received: 01/05/12 17:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/05/12 00:00	01/06/12 10:38		
Surrogates								
p-Terphenyl (S)	93	%	20-122	1	01/05/12 00:00	01/06/12 10:38	92-94-4	
n-Tetracosane (S)	89	%	30-122	1	01/05/12 00:00	01/06/12 10:38	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/06/12 10:43		
Benzene	ND	ug/L	1.0	1		01/06/12 10:43	71-43-2	
Toluene	ND	ug/L	1.0	1		01/06/12 10:43	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/06/12 10:43	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/06/12 10:43	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/06/12 10:43	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/06/12 10:43	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/06/12 10:43	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/06/12 10:43	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		01/06/12 10:43	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/06/12 10:43		

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QUALITY CONTROL DATA

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

QC Batch: MSV/42910 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60113219001, 60113219002, 60113219003, 60113219004, 60113219005

METHOD BLANK: 935579 Matrix: Water
Associated Lab Samples: 60113219001, 60113219002, 60113219003, 60113219004, 60113219005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/06/12 09:28	
Ethylbenzene	ug/L	ND	1.0	01/06/12 09:28	
Gasoline Range Organics	mg/L	ND	0.50	01/06/12 09:28	
n-Hexane	ug/L	ND	10.0	01/06/12 09:28	
Toluene	ug/L	ND	1.0	01/06/12 09:28	
Xylene (Total)	ug/L	ND	3.0	01/06/12 09:28	
1,2-Dichloroethane-d4 (S)	%	94	82-119	01/06/12 09:28	
4-Bromofluorobenzene (S)	%	98	87-113	01/06/12 09:28	
Dibromofluoromethane (S)	%	97	86-112	01/06/12 09:28	
Toluene-d8 (S)	%	97	90-110	01/06/12 09:28	

LABORATORY CONTROL SAMPLE: 935580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.9	105	82-117	
Ethylbenzene	ug/L	20	20.3	101	79-121	
Gasoline Range Organics	mg/L	4	3.8	94	63-139	
n-Hexane	ug/L	20	20.5	102	43-118	
Toluene	ug/L	20	19.8	99	80-120	
Xylene (Total)	ug/L	60	59.7	99	79-120	
1,2-Dichloroethane-d4 (S)	%			99	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			100	86-112	
Toluene-d8 (S)	%			96	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

QC Batch: OEXT/31657 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60113219001, 60113219002, 60113219003, 60113219004, 60113219005

METHOD BLANK: 935561 Matrix: Water
Associated Lab Samples: 60113219001, 60113219002, 60113219003, 60113219004, 60113219005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/06/12 09:31	
Fuel Oil	mg/L	ND	0.40	01/06/12 09:31	
Jet Fuel	mg/L	ND	0.40	01/06/12 09:31	
Kerosene	mg/L	ND	0.40	01/06/12 09:31	
Mineral Spirits	mg/L	ND	0.40	01/06/12 09:31	
Motor Oil	mg/L	ND	0.40	01/06/12 09:31	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/06/12 09:31	
n-Tetracosane (S)	%	76	30-122	01/06/12 09:31	
p-Terphenyl (S)	%	82	20-122	01/06/12 09:31	

LABORATORY CONTROL SAMPLE: 935562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.3	86	47-122	
n-Tetracosane (S)	%			77	30-122	
p-Terphenyl (S)	%			84	20-122	

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QUALIFIERS

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31657

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/42910

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN MP 110 NEMAHA
Pace Project No.: 60113219

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60113219001	SW-1	OA2	OEXT/31657	OA2	GCSV/11779
60113219002	SW-2	OA2	OEXT/31657	OA2	GCSV/11779
60113219003	CONFLUENCE	OA2	OEXT/31657	OA2	GCSV/11779
60113219004	SW-3	OA2	OEXT/31657	OA2	GCSV/11779
60113219005	L. NEMAHA DOWNSTREAM	OA2	OEXT/31657	OA2	GCSV/11779
60113219001	SW-1	EPA 8260/OA1	MSV/42910		
60113219002	SW-2	EPA 8260/OA1	MSV/42910		
60113219003	CONFLUENCE	EPA 8260/OA1	MSV/42910		
60113219004	SW-3	EPA 8260/OA1	MSV/42910		
60113219005	L. NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/42910		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No: C0113219

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline MP 110 Nemaha, Nebraska

Sample Type

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (OA1)	Analysis: TPH (OA2)					Remarks
	SW-1						1/5/12	0900	X			4	X	X					3(OA1) 1(OA2) 001
	SW-2						1/5/12	0920	X			4	X	X					002
	Confluence						1/5/12	0940	X			4	X	X					003
	SW-3						1/5/12	1000	X			4	X	X					004
	L. Nemaha Downstream						1/5/12	1020	X			4	X	X					005

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: Rush TAT

Relinquished By (signature): 1. Date/Time 1/5/12 1745

Received By (signature): Date/Time 1/5/12 1745

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 1.3 °C

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: BtMcD Project # 60113219

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☒ No

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No

Optional
Proj. Due Date: 1/5
Proj. Name: Magellan Nanche

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.3
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: JM 1/5/12 1750

		Comments:
Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☒ Yes ☐ No ☐ N/A	
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: water		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed MA Lot # of added preservative _____
Trip Blank present:	☐ Yes ☒ No ☒ N/A	15.
Pace Trip Blank lot # (if purchased): MA		
Headspace in VOA vials (>6mm):	☐ Yes ☐ No ☒ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 1/6/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

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Lenexa, KS 66219
(913)599-5665

January 13, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 12, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60113654001	SW-1	Water	01/12/12 12:50	01/12/12 17:10
60113654002	SW-2	Water	01/12/12 13:10	01/12/12 17:10
60113654003	CONFLUENCE	Water	01/12/12 13:45	01/12/12 17:10
60113654004	SW-3	Water	01/12/12 14:15	01/12/12 17:10
60113654005	NEMAHA DOWNSTREAM	Water	01/12/12 15:20	01/12/12 17:10
60113654006	HOUSEWELL	Water	01/12/12 15:45	01/12/12 17:10

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60113654001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60113654002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60113654003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60113654004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60113654005	NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60113654006	HOUSEWELL	OA2	SDR	9
		EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Sample: SW-1 **Lab ID: 60113654001** Collected: 01/12/12 12:50 Received: 01/12/12 17:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:07		
Surrogates								
p-Terphenyl (S)	88	%	20-122	1	01/13/12 00:00	01/13/12 12:07	92-94-4	
n-Tetracosane (S)	88	%	30-122	1	01/13/12 00:00	01/13/12 12:07	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/13/12 10:44		
Benzene	ND	ug/L	1.0	1		01/13/12 10:44	71-43-2	
Toluene	**1.6**	ug/L	1.0	1		01/13/12 10:44	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/13/12 10:44	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/13/12 10:44	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/13/12 10:44	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		01/13/12 10:44	1868-53-7	
Toluene-d8 (S)	92	%	90-110	1		01/13/12 10:44	2037-26-5	
4-Bromofluorobenzene (S)	94	%	87-113	1		01/13/12 10:44	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		01/13/12 10:44	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/13/12 10:44		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Sample: SW-2 **Lab ID: 60113654002** Collected: 01/12/12 13:10 Received: 01/12/12 17:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:18		
Surrogates								
p-Terphenyl (S)	94	%	20-122	1	01/13/12 00:00	01/13/12 12:18	92-94-4	
n-Tetracosane (S)	97	%	30-122	1	01/13/12 00:00	01/13/12 12:18	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/13/12 11:00		
Benzene	ND	ug/L	1.0	1		01/13/12 11:00	71-43-2	
Toluene	**3.7**	ug/L	1.0	1		01/13/12 11:00	108-88-3	
Ethylbenzene	**1.2**	ug/L	1.0	1		01/13/12 11:00	100-41-4	
Xylene (Total)	**9.5**	ug/L	3.0	1		01/13/12 11:00	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/13/12 11:00	110-54-3	
Surrogates								
Dibromofluoromethane (S)	104	%	86-112	1		01/13/12 11:00	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/13/12 11:00	2037-26-5	
4-Bromofluorobenzene (S)	94	%	87-113	1		01/13/12 11:00	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		01/13/12 11:00	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/13/12 11:00		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Sample: CONFLUENCE **Lab ID: 60113654003** Collected: 01/12/12 13:45 Received: 01/12/12 17:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:29		
Surrogates								
p-Terphenyl (S)	92	%	20-122	1	01/13/12 00:00	01/13/12 12:29	92-94-4	
n-Tetracosane (S)	96	%	30-122	1	01/13/12 00:00	01/13/12 12:29	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/13/12 11:15		
Benzene	ND	ug/L	1.0	1		01/13/12 11:15	71-43-2	
Toluene	ND	ug/L	1.0	1		01/13/12 11:15	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/13/12 11:15	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/13/12 11:15	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/13/12 11:15	110-54-3	
Surrogates								
Dibromofluoromethane (S)	107	%	86-112	1		01/13/12 11:15	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		01/13/12 11:15	2037-26-5	
4-Bromofluorobenzene (S)	92	%	87-113	1		01/13/12 11:15	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	82-119	1		01/13/12 11:15	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/13/12 11:15		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Sample: SW-3 **Lab ID: 60113654004** Collected: 01/12/12 14:15 Received: 01/12/12 17:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:40		
Surrogates								
p-Terphenyl (S)	96	%	20-122	1	01/13/12 00:00	01/13/12 12:40	92-94-4	
n-Tetracosane (S)	98	%	30-122	1	01/13/12 00:00	01/13/12 12:40	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/13/12 11:30		
Benzene	ND	ug/L	1.0	1		01/13/12 11:30	71-43-2	
Toluene	ND	ug/L	1.0	1		01/13/12 11:30	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/13/12 11:30	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/13/12 11:30	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/13/12 11:30	110-54-3	
Surrogates								
Dibromofluoromethane (S)	109	%	86-112	1		01/13/12 11:30	1868-53-7	
Toluene-d8 (S)	95	%	90-110	1		01/13/12 11:30	2037-26-5	
4-Bromofluorobenzene (S)	92	%	87-113	1		01/13/12 11:30	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	82-119	1		01/13/12 11:30	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/13/12 11:30		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Sample: NEMAHA DOWNSTREAM **Lab ID: 60113654005** Collected: 01/12/12 15:20 Received: 01/12/12 17:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 12:52		
Surrogates								
p-Terphenyl (S)	93	%	20-122	1	01/13/12 00:00	01/13/12 12:52	92-94-4	
n-Tetracosane (S)	92	%	30-122	1	01/13/12 00:00	01/13/12 12:52	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/13/12 11:46		
Benzene	ND	ug/L	1.0	1		01/13/12 11:46	71-43-2	
Toluene	ND	ug/L	1.0	1		01/13/12 11:46	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/13/12 11:46	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/13/12 11:46	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/13/12 11:46	110-54-3	
Surrogates								
Dibromofluoromethane (S)	106	%	86-112	1		01/13/12 11:46	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		01/13/12 11:46	2037-26-5	
4-Bromofluorobenzene (S)	90	%	87-113	1		01/13/12 11:46	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		01/13/12 11:46	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/13/12 11:46		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Sample: HOUSEWELL **Lab ID: 60113654006** Collected: 01/12/12 15:45 Received: 01/12/12 17:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/13/12 00:00	01/13/12 13:03		
Surrogates								
p-Terphenyl (S)	92	%	20-122	1	01/13/12 00:00	01/13/12 13:03	92-94-4	
n-Tetracosane (S)	97	%	30-122	1	01/13/12 00:00	01/13/12 13:03	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/13/12 12:01		
Benzene	ND	ug/L	1.0	1		01/13/12 12:01	71-43-2	
Toluene	ND	ug/L	1.0	1		01/13/12 12:01	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/13/12 12:01	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/13/12 12:01	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/13/12 12:01	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		01/13/12 12:01	1868-53-7	
Toluene-d8 (S)	93	%	90-110	1		01/13/12 12:01	2037-26-5	
4-Bromofluorobenzene (S)	94	%	87-113	1		01/13/12 12:01	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	82-119	1		01/13/12 12:01	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/13/12 12:01		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

QC Batch: MSV/43055 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60113654001, 60113654002, 60113654003, 60113654004, 60113654005, 60113654006

METHOD BLANK: 938705 Matrix: Water
Associated Lab Samples: 60113654001, 60113654002, 60113654003, 60113654004, 60113654005, 60113654006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/13/12 09:58	
Ethylbenzene	ug/L	ND	1.0	01/13/12 09:58	
Gasoline Range Organics	mg/L	ND	0.50	01/13/12 09:58	
n-Hexane	ug/L	ND	10.0	01/13/12 09:58	
Toluene	ug/L	ND	1.0	01/13/12 09:58	
Xylene (Total)	ug/L	ND	3.0	01/13/12 09:58	
1,2-Dichloroethane-d4 (S)	%	105	82-119	01/13/12 09:58	
4-Bromofluorobenzene (S)	%	91	87-113	01/13/12 09:58	
Dibromofluoromethane (S)	%	110	86-112	01/13/12 09:58	
Toluene-d8 (S)	%	100	90-110	01/13/12 09:58	

LABORATORY CONTROL SAMPLE: 938706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.7	93	82-117	
Ethylbenzene	ug/L	20	19.9	99	79-121	
Gasoline Range Organics	mg/L	4	4.3	108	63-139	
n-Hexane	ug/L	20	20.5	102	43-118	
Toluene	ug/L	20	18.3	92	80-120	
Xylene (Total)	ug/L	60	58.1	97	79-120	
1,2-Dichloroethane-d4 (S)	%			103	82-119	
4-Bromofluorobenzene (S)	%			92	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			96	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

QC Batch: OEXT/31740 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60113654001, 60113654002, 60113654003, 60113654004, 60113654005, 60113654006

METHOD BLANK: 938730 Matrix: Water
Associated Lab Samples: 60113654001, 60113654002, 60113654003, 60113654004, 60113654005, 60113654006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/13/12 11:44	
Fuel Oil	mg/L	ND	0.40	01/13/12 11:44	
Jet Fuel	mg/L	ND	0.40	01/13/12 11:44	
Kerosene	mg/L	ND	0.40	01/13/12 11:44	
Mineral Spirits	mg/L	ND	0.40	01/13/12 11:44	
Motor Oil	mg/L	ND	0.40	01/13/12 11:44	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/13/12 11:44	
n-Tetracosane (S)	%	67	30-122	01/13/12 11:44	
p-Terphenyl (S)	%	79	20-122	01/13/12 11:44	

LABORATORY CONTROL SAMPLE: 938731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.8	95	47-122	
n-Tetracosane (S)	%			88	30-122	
p-Terphenyl (S)	%			100	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/43055
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: OEXT/31740
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE MP110 NEMAHA
Pace Project No.: 60113654

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60113654001	SW-1	OA2	OEXT/31740	OA2	GCSV/11816
60113654002	SW-2	OA2	OEXT/31740	OA2	GCSV/11816
60113654003	CONFLUENCE	OA2	OEXT/31740	OA2	GCSV/11816
60113654004	SW-3	OA2	OEXT/31740	OA2	GCSV/11816
60113654005	NEMAHA DOWNSTREAM	OA2	OEXT/31740	OA2	GCSV/11816
60113654006	HOUSEWELL	OA2	OEXT/31740	OA2	GCSV/11816
60113654001	SW-1	EPA 8260/OA1	MSV/43055		
60113654002	SW-2	EPA 8260/OA1	MSV/43055		
60113654003	CONFLUENCE	EPA 8260/OA1	MSV/43055		
60113654004	SW-3	EPA 8260/OA1	MSV/43055		
60113654005	NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/43055		
60113654006	HOUSEWELL	EPA 8260/OA1	MSV/43055		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: PACE
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline MP110 Nemaha, Nebraska

60113654

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Sample Type: Matrix: Liquid	Sample Type: Matrix: Solid	Sample Type: Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (6A1)	Analysis: TPH (6A21)					Remarks	
	SW-1						1/12/12	1250	X			4	X	X	2DG9H				1AG1U	01
	SW-2						1/12/12	1310	X			4	X	X	3DG9H					02
	Confluence						1/12/12	1345	X			4	X	X						03
	SW-3						1/12/12	1415	X			4	X	X						04
	Lakemaha Downstream						1/12/12	1520	X			4	X	X						05
	House Wall						1/12/12	1545	X			4	X	X						06

Sampler (signature): Tom Moriarty

Sampler (signature):

Special Instructions:

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
1.	1/12/12 1710		1/12/12 1710
2.			

Ice Present in Container: Yes ✓ No

Temperature Upon Receipt: 0.2

Laboratory Comments:

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

Client Name: B & M Project # 60113654

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Commercial ☑Pace ☐Other ____

Tracking #: ____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 4/12 4/13
Proj. Name:

Packing Material: ☐Bubble Wrap ☑Bubble Bags ☑Foam ☐None ☐Other ____

Thermometer Used: (T-191) T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.2
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: PVI-13-12

		Comments:
Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☑Yes ☐No ☐N/A	7. Same day
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	9.
-Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☑No ☐N/A	10. One SW-1 DG9H Broke
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	13. All AG1u Are Frozen
-Includes date/time/ID/analyses Matrix: WT		one SW-1 1DG9H Frozen
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	14. three confluence 3DG9H Frozen
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	one House well 1DG9H Frozen
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed ____ Lot # of added preservative ____
Trip Blank present:	☐Yes ☑No ☐N/A	15.
Pace Trip Blank lot # (if purchased): ____		
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: ____

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: ____ Date: ____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp. incorrect containers)

F-KS-C-003-Rev 05, 19February2010

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(913)599-5665

January 20, 20 12

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 20, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60113972001	SW-1	Water	01/19/12 08:50	01/20/12 07:50
60113972002	SW-2	Water	01/19/12 09:05	01/20/12 07:50
60113972003	CONFLUENCE	Water	01/19/12 09:30	01/20/12 07:50
60113972004	L NEMAHA DOWNSTREAM	Water	01/19/12 10:05	01/20/12 07:50
60113972005	SW-3	Water	01/19/12 10:20	01/20/12 07:50

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60113972001	SW-1	OA2	SDR	9
60113972002	SW-2	OA2	SDR	9
60113972003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60113972004	L NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60113972005	SW-3	OA2	SDR	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Sample: SW-1 **Lab ID: 60113972001** Collected: 01/19/12 08:50 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:24		
Surrogates								
p-Terphenyl (S)	72	%	20-122	1	01/20/12 00:00	01/20/12 11:24	92-94-4	
n-Tetracosane (S)	78	%	30-122	1	01/20/12 00:00	01/20/12 11:24	646-31-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Sample: SW-2 **Lab ID: 60113972002** Collected: 01/19/12 09:05 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:35		
Surrogates								
p-Terphenyl (S)	62	%	20-122	1	01/20/12 00:00	01/20/12 11:35	92-94-4	
n-Tetracosane (S)	66	%	30-122	1	01/20/12 00:00	01/20/12 11:35	646-31-1	

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Sample: CONFLUENCE **Lab ID: 60113972003** Collected: 01/19/12 09:30 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:46		
Surrogates								
p-Terphenyl (S)	70	%	20-122	1	01/20/12 00:00	01/20/12 11:46	92-94-4	
n-Tetracosane (S)	76	%	30-122	1	01/20/12 00:00	01/20/12 11:46	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/20/12 11:58		
Benzene	ND	ug/L	1.0	1		01/20/12 11:58	71-43-2	
Toluene	ND	ug/L	1.0	1		01/20/12 11:58	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/20/12 11:58	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/20/12 11:58	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/20/12 11:58	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/20/12 11:58	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		01/20/12 11:58	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		01/20/12 11:58	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		01/20/12 11:58	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/20/12 11:58		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60113972004** Collected: 01/19/12 10:05 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 11:57		
Surrogates								
p-Terphenyl (S)	73	%	20-122	1	01/20/12 00:00	01/20/12 11:57	92-94-4	
n-Tetracosane (S)	76	%	30-122	1	01/20/12 00:00	01/20/12 11:57	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/20/12 12:12		
Benzene	ND	ug/L	1.0	1		01/20/12 12:12	71-43-2	
Toluene	ND	ug/L	1.0	1		01/20/12 12:12	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/20/12 12:12	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/20/12 12:12	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/20/12 12:12	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/20/12 12:12	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		01/20/12 12:12	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		01/20/12 12:12	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		01/20/12 12:12	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/20/12 12:12		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Sample: SW-3 **Lab ID: 60113972005** Collected: 01/19/12 10:20 Received: 01/20/12 07:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/20/12 00:00	01/20/12 12:09		
Surrogates								
p-Terphenyl (S)	75	%	20-122	1	01/20/12 00:00	01/20/12 12:09	92-94-4	
n-Tetracosane (S)	78	%	30-122	1	01/20/12 00:00	01/20/12 12:09	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/20/12 12:26		
Benzene	ND	ug/L	1.0	1		01/20/12 12:26	71-43-2	
Toluene	ND	ug/L	1.0	1		01/20/12 12:26	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/20/12 12:26	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/20/12 12:26	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/20/12 12:26	110-54-3	
Surrogates								
Dibromofluoromethane (S)	100	%	86-112	1		01/20/12 12:26	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/20/12 12:26	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/20/12 12:26	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		01/20/12 12:26	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/20/12 12:26		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

QC Batch: MSV/43163 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60113972003, 60113972004, 60113972005

METHOD BLANK: 941216 Matrix: Water
Associated Lab Samples: 60113972003, 60113972004, 60113972005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/20/12 11:44	
Ethylbenzene	ug/L	ND	1.0	01/20/12 11:44	
Gasoline Range Organics	mg/L	ND	0.50	01/20/12 11:44	
n-Hexane	ug/L	ND	10.0	01/20/12 11:44	
Toluene	ug/L	ND	1.0	01/20/12 11:44	
Xylene (Total)	ug/L	ND	3.0	01/20/12 11:44	
1,2-Dichloroethane-d4 (S)	%	98	82-119	01/20/12 11:44	
4-Bromofluorobenzene (S)	%	98	87-113	01/20/12 11:44	
Dibromofluoromethane (S)	%	98	86-112	01/20/12 11:44	
Toluene-d8 (S)	%	102	90-110	01/20/12 11:44	

LABORATORY CONTROL SAMPLE: 941217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	82-117	
Ethylbenzene	ug/L	20	20.8	104	79-121	
Gasoline Range Organics	mg/L	4	4.1	102	63-139	
n-Hexane	ug/L	20	22.9	115	43-118	
Toluene	ug/L	20	20.3	101	80-120	
Xylene (Total)	ug/L	60	60.6	101	79-120	
1,2-Dichloroethane-d4 (S)	%			96	82-119	
4-Bromofluorobenzene (S)	%			98	87-113	
Dibromofluoromethane (S)	%			100	86-112	
Toluene-d8 (S)	%			99	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

QC Batch: OEXT/31809 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60113972001, 60113972002, 60113972003, 60113972004, 60113972005

METHOD BLANK: 941218 Matrix: Water
Associated Lab Samples: 60113972001, 60113972002, 60113972003, 60113972004, 60113972005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/20/12 11:01	
Fuel Oil	mg/L	ND	0.40	01/20/12 11:01	
Jet Fuel	mg/L	ND	0.40	01/20/12 11:01	
Kerosene	mg/L	ND	0.40	01/20/12 11:01	
Mineral Spirits	mg/L	ND	0.40	01/20/12 11:01	
Motor Oil	mg/L	ND	0.40	01/20/12 11:01	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/20/12 11:01	
n-Tetracosane (S)	%	72	30-122	01/20/12 11:01	
p-Terphenyl (S)	%	70	20-122	01/20/12 11:01	

LABORATORY CONTROL SAMPLE: 941219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	3.9	78	47-122	
n-Tetracosane (S)	%			71	30-122	
p-Terphenyl (S)	%			74	20-122	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/43163

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/31809

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60113972

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60113972001	**SW-1**	OA2	OEXT/31809	OA2	GCSV/11847
60113972002	**SW-2**	OA2	OEXT/31809	OA2	GCSV/11847
60113972003	**CONFLUENCE**	OA2	OEXT/31809	OA2	GCSV/11847
60113972004	**L NEMAHA DOWNSTREAM**	OA2	OEXT/31809	OA2	GCSV/11847
60113972005	**SW-3**	OA2	OEXT/31809	OA2	GCSV/11847
60113972003	**CONFLUENCE**	EPA 8260/OA1	MSV/43163		
60113972004	**L NEMAHA DOWNSTREAM**	EPA 8260/OA1	MSV/43163		
60113972005	**SW-3**	EPA 8260/OA1	MSV/43163		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L.P. Nemaha, NE

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX	n-Hexane (OA1)	TPH (OA2)				60113972
	SW-1	~~SW~~	1/AG24				1/19/12	0850	X			4	X	X					01
	SW-2						1/19/12	0905	X			4	X	X					02
	Confluence						1/19/12	0930	X			4	X	X		2D GAH			03
	L. Nemaha Downstream						1/19/12	1005	X			4	X	X		3D GAH			04
	SW-3						1/19/12	1020	X			4	X	X		1D GAH			05

Sample Type

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: RUSH TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time
1.	1/20/12 0750		1/20/12 0750
Relinquished By (signature): 2.	Date/Time	Received By (signature):	Date/Time

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 0.4

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: B & M Project # 60113972

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional	
Proj. Due Date:	
Proj. Name:	1/20

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 0.4

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: AH 1-20-12

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. Sameday
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☑ No ☐ N/A	10. SW-1 and SW-2 all 3 DGAH Broke
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11. One DGAH Broke for confidence
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12. 2DGAH Broke for SW-3
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13. All AG2U are ~~for~~ frozen
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y / N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Review Customer L/M in Mobile Dec/Hardware Breakage.

Project Manager Review: _____ Date: 1/20/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.05, 19February2010

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January 23, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 20, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114032001	SW-1	Water	01/20/12 09:50	01/20/12 14:20
60114032002	SW-2	Water	01/20/12 10:10	01/20/12 14:20
60114032003	SW-3	Water	01/20/12 10:35	01/20/12 14:20

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60114032001	SW-1	EPA 8260/OA1	HNS	11
60114032002	SW-2	EPA 8260/OA1	HNS	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Sample: SW-1 **Lab ID: 60114032001** Collected: 01/20/12 09:50 Received: 01/20/12 14:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/23/12 16:23		
Benzene	ND	ug/L	1.0	1		01/23/12 16:23	71-43-2	
Toluene	**2.8**	ug/L	1.0	1		01/23/12 16:23	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/23/12 16:23	100-41-4	
Xylene (Total)	**5.3**	ug/L	3.0	1		01/23/12 16:23	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/23/12 16:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	96	%	86-112	1		01/23/12 16:23	1868-53-7	
Toluene-d8 (S)	93	%	90-110	1		01/23/12 16:23	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		01/23/12 16:23	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	1		01/23/12 16:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/23/12 16:23		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Sample: SW-2 **Lab ID: 60114032002** Collected: 01/20/12 10:10 Received: 01/20/12 14:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/23/12 11:30		
Benzene	ND	ug/L	1.0	1		01/23/12 11:30	71-43-2	
Toluene	**4.0**	ug/L	1.0	1		01/23/12 11:30	108-88-3	
Ethylbenzene	**1.2**	ug/L	1.0	1		01/23/12 11:30	100-41-4	
Xylene (Total)	**8.8**	ug/L	3.0	1		01/23/12 11:30	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/23/12 11:30	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		01/23/12 11:30	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/23/12 11:30	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		01/23/12 11:30	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		01/23/12 11:30	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/23/12 11:30		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

QC Batch: MSV/43191 | Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 | Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114032001, 60114032002

METHOD BLANK: 942020 | Matrix: Water
Associated Lab Samples: 60114032001, 60114032002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/23/12 10:57	
Ethylbenzene	ug/L	ND	1.0	01/23/12 10:57	
Gasoline Range Organics	mg/L	ND	0.50	01/23/12 10:57	
n-Hexane	ug/L	ND	10.0	01/23/12 10:57	
Toluene	ug/L	ND	1.0	01/23/12 10:57	
Xylene (Total)	ug/L	ND	3.0	01/23/12 10:57	
1,2-Dichloroethane-d4 (S)	%	93	82-119	01/23/12 10:57	
4-Bromofluorobenzene (S)	%	97	87-113	01/23/12 10:57	
Dibromofluoromethane (S)	%	94	86-112	01/23/12 10:57	
Toluene-d8 (S)	%	91	90-110	01/23/12 10:57	

LABORATORY CONTROL SAMPLE: 942021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.8	89	82-117	
Ethylbenzene	ug/L	20	17.4	87	79-121	
Gasoline Range Organics	mg/L	4	4.4	111	63-139	
n-Hexane	ug/L	20	19.4	97	43-118	
Toluene	ug/L	20	17.3	86	80-120	
Xylene (Total)	ug/L	60	52.8	88	79-120	
1,2-Dichloroethane-d4 (S)	%			90	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			93	86-112	
Toluene-d8 (S)	%			94	90-110	

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/43191

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY, LP
Pace Project No.: 60114032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114032001	SW-1	EPA 8260/OA1	MSV/43191		
60114032002	SW-2	EPA 8260/OA1	MSV/43191		

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Burns & McDonnell
SINCE 1898
021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace
Address:
City/State/Zip:
Telephone:

Document Control No:
Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L.P. Nemaha NE

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis: BTEX, n-Hexane (OAL)						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas								
	SW-1						1/20/12	0950	X			3	X						
	SW-2						1/20/12	1010	X			3	X						
	SW-3						1/20/12	1035	X			3	X						* Only analyze if 1/19/12 Sample volume insufficient

Sample Type

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: RUSH TAT

Relinquished By (signature) 1. — Date/Time 1/20/12 1420 — Received By (signature): — Date/Time 1/20/12 1420

Relinquished By (signature) 2. — Date/Time — Received By (signature): — Date/Time

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 2.6

Laboratory Comments:

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January 27, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 26, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114265001	SW-1	Water	01/26/12 08:25	01/26/12 13:03
60114265002	SW-2	Water	01/26/12 08:45	01/26/12 13:03
60114265003	CONFLUENCE	Water	01/26/12 09:00	01/26/12 13:03
60114265004	SW-3	Water	01/26/12 09:20	01/26/12 13:03
60114265005	L. NEMAHA DOWNSTREAM	Water	01/26/12 09:35	01/26/12 13:03

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60114265001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JTS	11
60114265002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JTS	11
60114265003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JTS	11
60114265004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JTS	11
60114265005	L. NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JTS	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Sample: SW-1 **Lab ID: 60114265001** Collected: 01/26/12 08:25 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:38		
Surrogates								
p-Terphenyl (S)	80	%	20-122	1	01/26/12 00:00	01/27/12 09:38	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	01/26/12 00:00	01/27/12 09:38	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 06:30		
Benzene	ND	ug/L	1.0	1		01/27/12 06:30	71-43-2	
Toluene	**1.5**	ug/L	1.0	1		01/27/12 06:30	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 06:30	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 06:30	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 06:30	110-54-3	
Surrogates								
Dibromofluoromethane (S)	106	%	86-112	1		01/27/12 06:30	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		01/27/12 06:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/27/12 06:30	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		01/27/12 06:30	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 06:30		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Sample: SW-2 **Lab ID: 60114265002** Collected: 01/26/12 08:45 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 09:49		
Surrogates								
p-Terphenyl (S)	76	%	20-122	1	01/26/12 00:00	01/27/12 09:49	92-94-4	
n-Tetracosane (S)	75	%	30-122	1	01/26/12 00:00	01/27/12 09:49	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 06:47		
Benzene	ND	ug/L	1.0	1		01/27/12 06:47	71-43-2	
Toluene	**3.8**	ug/L	1.0	1		01/27/12 06:47	108-88-3	
Ethylbenzene	**1.2**	ug/L	1.0	1		01/27/12 06:47	100-41-4	
Xylene (Total)	**10.1**	ug/L	3.0	1		01/27/12 06:47	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 06:47	110-54-3	
Surrogates								
Dibromofluoromethane (S)	98	%	86-112	1		01/27/12 06:47	1868-53-7	
Toluene-d8 (S)	94	%	90-110	1		01/27/12 06:47	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		01/27/12 06:47	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	82-119	1		01/27/12 06:47	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 06:47		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Sample: CONFLUENCE **Lab ID: 60114265003** Collected: 01/26/12 09:00 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:01		
Surrogates								
p-Terphenyl (S)	77	%	20-122	1	01/26/12 00:00	01/27/12 10:01	92-94-4	
n-Tetracosane (S)	76	%	30-122	1	01/26/12 00:00	01/27/12 10:01	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 07:05		
Benzene	ND	ug/L	1.0	1		01/27/12 07:05	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 07:05	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 07:05	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 07:05	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 07:05	110-54-3	
Surrogates								
Dibromofluoromethane (S)	106	%	86-112	1		01/27/12 07:05	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		01/27/12 07:05	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		01/27/12 07:05	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		01/27/12 07:05	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 07:05		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Sample: SW-3 **Lab ID: 60114265004** Collected: 01/26/12 09:20 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:12		
Surrogates								
p-Terphenyl (S)	78	%	20-122	1	01/26/12 00:00	01/27/12 10:12	92-94-4	
n-Tetracosane (S)	77	%	30-122	1	01/26/12 00:00	01/27/12 10:12	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 07:23		
Benzene	ND	ug/L	1.0	1		01/27/12 07:23	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 07:23	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 07:23	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 07:23	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 07:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		01/27/12 07:23	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		01/27/12 07:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/27/12 07:23	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		01/27/12 07:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 07:23		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Sample: L. NEMAHA DOWNSTREAM **Lab ID: 60114265005** Collected: 01/26/12 09:35 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:23		
Surrogates								
p-Terphenyl (S)	76	%	20-122	1	01/26/12 00:00	01/27/12 10:23	92-94-4	
n-Tetracosane (S)	76	%	30-122	1	01/26/12 00:00	01/27/12 10:23	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 07:41		
Benzene	ND	ug/L	1.0	1		01/27/12 07:41	71-43-2	
Toluene	ND	ug/L	1.0	1		01/27/12 07:41	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 07:41	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 07:41	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 07:41	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		01/27/12 07:41	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		01/27/12 07:41	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		01/27/12 07:41	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		01/27/12 07:41	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 07:41		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

QC Batch: MSV/43281 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114265001, 60114265002, 60114265003, 60114265004, 60114265005

METHOD BLANK: 943686 Matrix: Water
Associated Lab Samples: 60114265001, 60114265002, 60114265003, 60114265004, 60114265005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/27/12 06:12	
Ethylbenzene	ug/L	ND	1.0	01/27/12 06:12	
Gasoline Range Organics	mg/L	ND	0.50	01/27/12 06:12	
n-Hexane	ug/L	ND	10.0	01/27/12 06:12	
Toluene	ug/L	ND	1.0	01/27/12 06:12	
Xylene (Total)	ug/L	ND	3.0	01/27/12 06:12	
1,2-Dichloroethane-d4 (S)	%	96	82-119	01/27/12 06:12	
4-Bromofluorobenzene (S)	%	100	87-113	01/27/12 06:12	
Dibromofluoromethane (S)	%	102	86-112	01/27/12 06:12	
Toluene-d8 (S)	%	96	90-110	01/27/12 06:12	

LABORATORY CONTROL SAMPLE: 943687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.2	91	82-117	
Ethylbenzene	ug/L	20	19.5	98	79-121	
Gasoline Range Organics	mg/L	4	4.0	100	63-139	
n-Hexane	ug/L	20	18.5	92	43-118	
Toluene	ug/L	20	19.0	95	80-120	
Xylene (Total)	ug/L	60	60.7	101	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			106	86-112	
Toluene-d8 (S)	%			96	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

QC Batch: OEXT/31870 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60114265001, 60114265002, 60114265003, 60114265004, 60114265005

METHOD BLANK: 943639 Matrix: Water
Associated Lab Samples: 60114265001, 60114265002, 60114265003, 60114265004, 60114265005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/27/12 09:16	
Fuel Oil	mg/L	ND	0.40	01/27/12 09:16	
Jet Fuel	mg/L	ND	0.40	01/27/12 09:16	
Kerosene	mg/L	ND	0.40	01/27/12 09:16	
Mineral Spirits	mg/L	ND	0.40	01/27/12 09:16	
Motor Oil	mg/L	ND	0.40	01/27/12 09:16	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/27/12 09:16	
n-Tetracosane (S)	%	60	30-122	01/27/12 09:16	
p-Terphenyl (S)	%	65	20-122	01/27/12 09:16	

LABORATORY CONTROL SAMPLE: 943640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	3.8	76	47-122	
n-Tetracosane (S)	%			72	30-122	
p-Terphenyl (S)	%			72	20-122	

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(913)599-5665

QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31870

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43281

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114265

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114265001	SW-1	OA2	OEXT/31870	OA2	GCSV/11871
60114265002	SW-2	OA2	OEXT/31870	OA2	GCSV/11871
60114265003	CONFLUENCE	OA2	OEXT/31870	OA2	GCSV/11871
60114265004	SW-3	OA2	OEXT/31870	OA2	GCSV/11871
60114265005	L. NEMAHA DOWNSTREAM	OA2	OEXT/31870	OA2	GCSV/11871
60114265001	SW-1	EPA 8260/OA1	MSV/43281		
60114265002	SW-2	EPA 8260/OA1	MSV/43281		
60114265003	CONFLUENCE	EPA 8260/OA1	MSV/43281		
60114265004	,SW-3	EPA 8260/OA1	MSV/43281		
60114265005	L. NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/43281		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L. P. Nemaha, NE

Sample Type

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (OA1)	Analysis: TPH (OA1)	Analysis: TPH (OA2)				Remarks
	SW-1						1/26/12	0825	X			4	X	X	X				ASCU 3(DEPTH) 001
	SW-2						1/26/12	0845	X			4	X	X	X				002
	Confluence						1/26/12	0900	X			4	X	X	X				003
	SW-3						1/26/12	0920	X			4	X	X	X				004
	L. Nemaha Downstream						1/26/12	0935	X			4	X	X	X				005

60114265

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: Rush TAT

Relinquished By (signature): 1. Date/Time 1/26/12 1303

Received By (signature): Date/Time 1/26/12 1303

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 1.6°C

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

60114285

Client Name: Burns & Mac Project # 60114265

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 1/30/12
Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.6

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 1/26/12 PM

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. RUSH / 2-day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed ____ Lot # of added preservative ____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AKB Date: 1/26/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev 05, 19February2010

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Lenexa, KS 66219
(913)599-5665

January 27, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on January 26, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114265006	UD #6	Water	01/25/12 14:50	01/26/12 13:03
60114265007	UD #7	Water	01/25/12 15:10	01/26/12 13:03

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60114265006	**UD #6**	OA2	SDR	9
		EPA 8260/OA1	JTS	11
60114265007	**UD #7**	OA2	SDR	9
		EPA 8260/OA1	JTS	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Sample: UD #6 **Lab ID: 60114265006** Collected: 01/25/12 14:50 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:34		
Surrogates								
p-Terphenyl (S)	70	%	20-122	1	01/26/12 00:00	01/27/12 10:34	92-94-4	
n-Tetracosane (S)	69	%	30-122	1	01/26/12 00:00	01/27/12 10:34	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 14:53		
Benzene	ND	ug/L	1.0	1		01/27/12 14:53	71-43-2	
Toluene	**1.2**	ug/L	1.0	1		01/27/12 14:53	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 14:53	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 14:53	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 14:53	110-54-3	
Surrogates								
Dibromofluoromethane (S)	105	%	86-112	1		01/27/12 14:53	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		01/27/12 14:53	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/27/12 14:53	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		01/27/12 14:53	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 14:53		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Sample: UD #7 **Lab ID: 60114265007** Collected: 01/25/12 15:10 Received: 01/26/12 13:03 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45	94114-58-6	
Kerosene	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	01/26/12 00:00	01/27/12 10:45		
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	01/26/12 00:00	01/27/12 10:45	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	01/26/12 00:00	01/27/12 10:45	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		01/27/12 08:16		
Benzene	ND	ug/L	1.0	1		01/27/12 08:16	71-43-2	
Toluene	**1.5**	ug/L	1.0	1		01/27/12 08:16	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		01/27/12 08:16	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		01/27/12 08:16	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		01/27/12 08:16	110-54-3	
Surrogates								
Dibromofluoromethane (S)	106	%	86-112	1		01/27/12 08:16	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		01/27/12 08:16	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		01/27/12 08:16	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		01/27/12 08:16	17060-07-0	
Preservation pH	**1.0**		0.10	1		01/27/12 08:16		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

QC Batch: MSV/43281 | Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 | Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114265007

METHOD BLANK: 943686 | Matrix: Water
Associated Lab Samples: 60114265007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/27/12 06:12	
Ethylbenzene	ug/L	ND	1.0	01/27/12 06:12	
Gasoline Range Organics	mg/L	ND	0.50	01/27/12 06:12	
n-Hexane	ug/L	ND	10.0	01/27/12 06:12	
Toluene	ug/L	ND	1.0	01/27/12 06:12	
Xylene (Total)	ug/L	ND	3.0	01/27/12 06:12	
1,2-Dichloroethane-d4 (S)	%	96	82-119	01/27/12 06:12	
4-Bromofluorobenzene (S)	%	100	87-113	01/27/12 06:12	
Dibromofluoromethane (S)	%	102	86-112	01/27/12 06:12	
Toluene-d8 (S)	%	96	90-110	01/27/12 06:12	

LABORATORY CONTROL SAMPLE: 943687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.2	91	82-117	
Ethylbenzene	ug/L	20	19.5	98	79-121	
Gasoline Range Organics	mg/L	4	4.0	100	63-139	
n-Hexane	ug/L	20	18.5	92	43-118	
Toluene	ug/L	20	19.0	95	80-120	
Xylene (Total)	ug/L	60	60.7	101	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			106	86-112	
Toluene-d8 (S)	%			96	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

QC Batch: MSV/43296
QC Batch Method: EPA 8260/OA1
Analysis Method: EPA 8260/OA1
Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114265006

METHOD BLANK: 944227
Matrix: Water
Associated Lab Samples: 60114265006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	01/27/12 14:35	
Ethylbenzene	ug/L	ND	1.0	01/27/12 14:35	
Gasoline Range Organics	mg/L	ND	0.50	01/27/12 14:35	
n-Hexane	ug/L	ND	10.0	01/27/12 14:35	
Toluene	ug/L	ND	1.0	01/27/12 14:35	
Xylene (Total)	ug/L	ND	3.0	01/27/12 14:35	
1,2-Dichloroethane-d4 (S)	%	94	82-119	01/27/12 14:35	
4-Bromofluorobenzene (S)	%	101	87-113	01/27/12 14:35	
Dibromofluoromethane (S)	%	106	86-112	01/27/12 14:35	
Toluene-d8 (S)	%	98	90-110	01/27/12 14:35	

LABORATORY CONTROL SAMPLE: 944228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.6	88	82-117	
Ethylbenzene	ug/L	20	19.9	99	79-121	
Gasoline Range Organics	mg/L	4	4.8	121	63-139	
n-Hexane	ug/L	20	20.2	101	43-118	
Toluene	ug/L	20	18.3	91	80-120	
Xylene (Total)	ug/L	60	58.3	97	79-120	
1,2-Dichloroethane-d4 (S)	%			94	82-119	
4-Bromofluorobenzene (S)	%			100	87-113	
Dibromofluoromethane (S)	%			106	86-112	
Toluene-d8 (S)	%			100	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

QC Batch: OEXT/31870 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60114265006, 60114265007

METHOD BLANK: 943639 Matrix: Water
Associated Lab Samples: 60114265006, 60114265007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	01/27/12 09:16	
Fuel Oil	mg/L	ND	0.40	01/27/12 09:16	
Jet Fuel	mg/L	ND	0.40	01/27/12 09:16	
Kerosene	mg/L	ND	0.40	01/27/12 09:16	
Mineral Spirits	mg/L	ND	0.40	01/27/12 09:16	
Motor Oil	mg/L	ND	0.40	01/27/12 09:16	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	01/27/12 09:16	
n-Tetracosane (S)	%	60	30-122	01/27/12 09:16	
p-Terphenyl (S)	%	65	20-122	01/27/12 09:16	

LABORATORY CONTROL SAMPLE: 943640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	3.8	76	47-122	
n-Tetracosane (S)	%			72	30-122	
p-Terphenyl (S)	%			72	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31870

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43281

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114285

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114265006	**UD #6**	OA2	OEXT/31870	OA2	GCSV/11871
60114265007	**UD #7**	OA2	OEXT/31870	OA2	GCSV/11871
60114265006	**UD #6**	EPA 8260/OA1	MSV/43296		
60114265007	**UD #7**	EPA 8260/OA1	MSV/43281		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L. P. Nemaha, NE

Sample Type

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (OA1)	Analysis: TPH (OA1)	Analysis: TPH (OA2)				Remarks 60114265
	SW-1						1/26/12	0825	X			4	X	X	X				ASTM 3(DEPTH) 001
	SW-2						1/26/12	0845	X			4	X	X	X				002
	Confluence						1/26/12	0900	X			4	X	X	X				003
	SW-3						1/26/12	0920	X			4	X	X	X				004
	L. Nemaha Downstream						1/26/12	0935	X			4	X	X	X				005

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: Rush TAT

Relinquished By (signature): 1. Date/Time 1/26/12 1303

Received By (signature): Date/Time 1/26/12 1303

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 1.6°C

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L.P. Nemaha, NE

Sample Type

60114265

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (OA1)	Analysis: TPH (OA1)	Analysis: TPH (OA2)				Remarks
	UD#6						1/25/12	1450	X			4	X	X	X				AG2U 3(DS9K) 006
	UD#7						1/25/12	1510	X			4	X	X	X				↓ ↓ 007

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: 2-day TAT

Relinquished By (signature): 1. Date/Time 1/26/12 1303

Received By (signature): Date/Time 1/26/12 1303

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 1.6°C

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

Client Name: Burns & Mac Project # 60114285 60114265

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional
Proj. Due Date: 1/26/12
Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.6

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 1/26/12 JM

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. RUSH / 2-day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AKB Date: 1/26/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i e out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev 05, 19February2010

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February 03, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on February 01, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114550001	SW-1	Water	02/01/12 08:40	02/01/12 13:10
60114550002	SW-2	Water	02/01/12 08:50	02/01/12 13:10
60114550003	CONFLUENCE	Water	02/01/12 09:10	02/01/12 13:10
60114550004	SW-3	Water	02/01/12 09:30	02/01/12 13:10
60114550005	L.NEMAHA DOWNSTREAM	Water	02/01/12 10:00	02/01/12 13:10

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60114550001	SW-1	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60114550002	SW-2	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60114550003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60114550004	SW-3	OA2	SDR	9
		EPA 8260/OA1	PRG	11
60114550005	L.NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	PRG	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Sample: SW-1 **Lab ID: 60114550001** Collected: 02/01/12 08:40 Received: 02/01/12 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:32		
Surrogates								
p-Terphenyl (S)	76	%	20-122	1	02/01/12 00:00	02/02/12 09:32	92-94-4	
n-Tetracosane (S)	78	%	30-122	1	02/01/12 00:00	02/02/12 09:32	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/02/12 10:14		
Benzene	ND	ug/L	1.0	1		02/02/12 10:14	71-43-2	
Toluene	**1.7**	ug/L	1.0	1		02/02/12 10:14	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/02/12 10:14	100-41-4	
Xylene (Total)	**3.1**	ug/L	3.0	1		02/02/12 10:14	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/02/12 10:14	110-54-3	
Surrogates								
Dibromofluoromethane (S)	99	%	86-112	1		02/02/12 10:14	1868-53-7	
Toluene-d8 (S)	93	%	90-110	1		02/02/12 10:14	2037-26-5	
4-Bromofluorobenzene (S)	91	%	87-113	1		02/02/12 10:14	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		02/02/12 10:14	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/02/12 10:14		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Sample: SW-2 **Lab ID: 60114550002** Collected: 02/01/12 08:50 Received: 02/01/12 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:43		
Surrogates								
p-Terphenyl (S)	83	%	20-122	1	02/01/12 00:00	02/02/12 09:43	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/01/12 00:00	02/02/12 09:43	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/02/12 10:28		
Benzene	ND	ug/L	1.0	1		02/02/12 10:28	71-43-2	
Toluene	**3.7**	ug/L	1.0	1		02/02/12 10:28	108-88-3	
Ethylbenzene	**1.4**	ug/L	1.0	1		02/02/12 10:28	100-41-4	
Xylene (Total)	**9.8**	ug/L	3.0	1		02/02/12 10:28	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/02/12 10:28	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		02/02/12 10:28	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		02/02/12 10:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113	1		02/02/12 10:28	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		02/02/12 10:28	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/02/12 10:28		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Sample: CONFLUENCE **Lab ID: 60114550003** Collected: 02/01/12 09:10 Received: 02/01/12 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 09:54		
Surrogates								
p-Terphenyl (S)	79	%	20-122	1	02/01/12 00:00	02/02/12 09:54	92-94-4	
n-Tetracosane (S)	80	%	30-122	1	02/01/12 00:00	02/02/12 09:54	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/02/12 10:42		
Benzene	ND	ug/L	1.0	1		02/02/12 10:42	71-43-2	
Toluene	ND	ug/L	1.0	1		02/02/12 10:42	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/02/12 10:42	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/02/12 10:42	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/02/12 10:42	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		02/02/12 10:42	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		02/02/12 10:42	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113	1		02/02/12 10:42	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	82-119	1		02/02/12 10:42	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/02/12 10:42		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Sample: SW-3 **Lab ID: 60114550004** Collected: 02/01/12 09:30 Received: 02/01/12 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:05		
Surrogates								
p-Terphenyl (S)	86	%	20-122	1	02/01/12 00:00	02/02/12 10:05	92-94-4	
n-Tetracosane (S)	89	%	30-122	1	02/01/12 00:00	02/02/12 10:05	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/02/12 10:57		
Benzene	ND	ug/L	1.0	1		02/02/12 10:57	71-43-2	
Toluene	ND	ug/L	1.0	1		02/02/12 10:57	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/02/12 10:57	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/02/12 10:57	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/02/12 10:57	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		02/02/12 10:57	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		02/02/12 10:57	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113	1		02/02/12 10:57	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		02/02/12 10:57	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/02/12 10:57		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Sample: L.NEMAHA DOWNSTREAM **Lab ID: 60114550005** Collected: 02/01/12 10:00 Received: 02/01/12 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/01/12 00:00	02/02/12 10:17		
Surrogates								
p-Terphenyl (S)	90	%	20-122	1	02/01/12 00:00	02/02/12 10:17	92-94-4	
n-Tetracosane (S)	93	%	30-122	1	02/01/12 00:00	02/02/12 10:17	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/02/12 11:11		
Benzene	ND	ug/L	1.0	1		02/02/12 11:11	71-43-2	
Toluene	ND	ug/L	1.0	1		02/02/12 11:11	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/02/12 11:11	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/02/12 11:11	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/02/12 11:11	110-54-3	
Surrogates								
Dibromofluoromethane (S)	101	%	86-112	1		02/02/12 11:11	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		02/02/12 11:11	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113	1		02/02/12 11:11	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		02/02/12 11:11	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/02/12 11:11		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

QC Batch: MSV/43367 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60114550001, 60114550002, 60114550003, 60114550004, 60114550005

METHOD BLANK: 945894 Matrix: Water
Associated Lab Samples: 60114550001, 60114550002, 60114550003, 60114550004, 60114550005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	02/02/12 09:52	
Ethylbenzene	ug/L	ND	1.0	02/02/12 09:52	
Gasoline Range Organics	mg/L	ND	0.50	02/02/12 09:52	
n-Hexane	ug/L	ND	10.0	02/02/12 09:52	
Toluene	ug/L	ND	1.0	02/02/12 09:52	
Xylene (Total)	ug/L	ND	3.0	02/02/12 09:52	
1,2-Dichloroethane-d4 (S)	%	99	82-119	02/02/12 09:52	
4-Bromofluorobenzene (S)	%	105	87-113	02/02/12 09:52	
Dibromofluoromethane (S)	%	103	86-112	02/02/12 09:52	
Toluene-d8 (S)	%	104	90-110	02/02/12 09:52	

LABORATORY CONTROL SAMPLE: 945895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	82-117	
Ethylbenzene	ug/L	20	20.5	103	79-121	
Gasoline Range Organics	mg/L	4	3.8	95	63-139	
n-Hexane	ug/L	20	17.5	88	43-118	
Toluene	ug/L	20	19.6	98	80-120	
Xylene (Total)	ug/L	60	60.8	101	79-120	
1,2-Dichloroethane-d4 (S)	%			101	82-119	
4-Bromofluorobenzene (S)	%			104	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			99	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

QC Batch: OEXT/31916 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60114550001, 60114550002, 60114550003, 60114550004, 60114550005

METHOD BLANK: 945888 Matrix: Water
Associated Lab Samples: 60114550001, 60114550002, 60114550003, 60114550004, 60114550005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	02/02/12 09:09	
Fuel Oil	mg/L	ND	0.40	02/02/12 09:09	
Jet Fuel	mg/L	ND	0.40	02/02/12 09:09	
Kerosene	mg/L	ND	0.40	02/02/12 09:09	
Mineral Spirits	mg/L	ND	0.40	02/02/12 09:09	
Motor Oil	mg/L	ND	0.40	02/02/12 09:09	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	02/02/12 09:09	
n-Tetracosane (S)	%	82	30-122	02/02/12 09:09	
p-Terphenyl (S)	%	83	20-122	02/02/12 09:09	

LABORATORY CONTROL SAMPLE: 945889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.0	80	47-122	
n-Tetracosane (S)	%			92	30-122	
p-Terphenyl (S)	%			90	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/31916

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43367

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY
Pace Project No.: 60114550

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114550001	SW-1	OA2	OEXT/31916	OA2	GCSV/11894
60114550002	SW-2	OA2	OEXT/31916	OA2	GCSV/11894
60114550003	CONFLUENCE	OA2	OEXT/31916	OA2	GCSV/11894
60114550004	SW-3	OA2	OEXT/31916	OA2	GCSV/11894
60114550005	L.NEMAHA DOWNSTREAM	OA2	OEXT/31916	OA2	GCSV/11894
60114550001	SW-1	EPA 8260/OA1	MSV/43367		
60114550002	SW-2	EPA 8260/OA1	MSV/43367		
60114550003	CONFLUENCE	EPA 8260/OA1	MSV/43367		
60114550004	SW-3	EPA 8260/OA1	MSV/43367		
60114550005	L.NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/43367		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: PACE

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, Nemaha, NE

Sample Type

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane (0A1)	Analysis: TPH (0A2)					Remarks 60114550
	SW-1						2/1/12	0840	✓			4	✓	✓					3(DG9H) 1(AZ2M) 01
	SW-2						2/1/12	0850	✓			4	✓	✓					02
	Confluence						2/1/12	0910	✓			4	✓	✓					03
	SW-3						2/1/12	0930	✓			4	✓	✓					04
	L.Nemaha Downstream						2/1/12	1000	✓			4	✓	✓					05

Sampler (signature): Tom Moriarty [signature]

Sampler (signature):

Special Instructions: 2 day TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time
1. [signature] 2/1/12 1310		[signature] PACE	2/1/12 1310
2.			

Ice Present in Container: Yes [X] No [ ]

Temperature Upon Receipt: 20°C

Laboratory Comments:

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

Client Name: Burns + McDonnell Project # 60114550

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☒ No

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No

Optional
Proj. Due Date: 2/3/12
Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2.0
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: JAD 2/1/12 1325

		Comments:
Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☒ Yes ☐ No ☐ N/A	7. 2 day TAT
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☒ Yes ☐ No ☐ N/A	
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☒ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: water		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed: NA Lot # of added preservative:
Trip Blank present:	☐ Yes ☒ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): NA		
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____ aes

Project Manager Review: _____ Date: 2/2/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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February 13, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60115035001	SW-1	Water	02/08/12 11:20	02/09/12 08:06
60115035002	SW-2	Water	02/08/12 11:30	02/09/12 08:06
60115035003	CONFLUENCE	Water	02/08/12 11:50	02/09/12 08:06
60115035004	SW-3	Water	02/08/12 12:10	02/09/12 08:06
60115035005	L. NEMAHA DOWNSTREAM	Water	02/08/12 12:30	02/09/12 08:06
60115035006	HOUSEWELL	Water	02/08/12 13:10	02/09/12 08:06

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60115035001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JPF	11
60115035002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JPF	11
60115035003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JPF	11
60115035004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JPF	11
60115035005	L. NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JPF	11
60115035006	HOUSEWELL	OA2	SDR	9
		EPA 8260/OA1	JPF	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Sample: SW-1 **Lab ID: 60115035001** Collected: 02/08/12 11:20 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:26		
Surrogates								
p-Terphenyl (S)	78	%	20-122	1	02/09/12 00:00	02/09/12 21:26	92-94-4	
n-Tetracosane (S)	75	%	30-122	1	02/09/12 00:00	02/09/12 21:26	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 02:47		
Benzene	ND	ug/L	1.0	1		02/10/12 02:47	71-43-2	
Toluene	**1.8**	ug/L	1.0	1		02/10/12 02:47	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/10/12 02:47	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/10/12 02:47	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 02:47	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		02/10/12 02:47	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		02/10/12 02:47	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		02/10/12 02:47	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	82-119	1		02/10/12 02:47	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 02:47		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Sample: SW-2 **Lab ID: 60115035002** Collected: 02/08/12 11:30 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:37		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	02/09/12 00:00	02/09/12 21:37	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/09/12 00:00	02/09/12 21:37	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 03:05		
Benzene	ND	ug/L	1.0	1		02/10/12 03:05	71-43-2	
Toluene	**1.9**	ug/L	1.0	1		02/10/12 03:05	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/10/12 03:05	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/10/12 03:05	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 03:05	110-54-3	
Surrogates								
Dibromofluoromethane (S)	102	%	86-112	1		02/10/12 03:05	1868-53-7	
Toluene-d8 (S)	99	%	90-110	1		02/10/12 03:05	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		02/10/12 03:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	82-119	1		02/10/12 03:05	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 03:05		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Sample: CONFLUENCE **Lab ID: 60115035003** Collected: 02/08/12 11:50 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:48		
Surrogates								
p-Terphenyl (S)	81	%	20-122	1	02/09/12 00:00	02/09/12 21:48	92-94-4	
n-Tetracosane (S)	79	%	30-122	1	02/09/12 00:00	02/09/12 21:48	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 03:23		
Benzene	ND	ug/L	1.0	1		02/10/12 03:23	71-43-2	
Toluene	ND	ug/L	1.0	1		02/10/12 03:23	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/10/12 03:23	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/10/12 03:23	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 03:23	110-54-3	
Surrogates								
Dibromofluoromethane (S)	89	%	86-112	1		02/10/12 03:23	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		02/10/12 03:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		02/10/12 03:23	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		02/10/12 03:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 03:23		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Sample: SW-3 **Lab ID: 60115035004** Collected: 02/08/12 12:10 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 21:59		
Surrogates								
p-Terphenyl (S)	87	%	20-122	1	02/09/12 00:00	02/09/12 21:59	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	02/09/12 00:00	02/09/12 21:59	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 03:40		
Benzene	ND	ug/L	1.0	1		02/10/12 03:40	71-43-2	
Toluene	ND	ug/L	1.0	1		02/10/12 03:40	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/10/12 03:40	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/10/12 03:40	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 03:40	110-54-3	
Surrogates								
Dibromofluoromethane (S)	108	%	86-112	1		02/10/12 03:40	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		02/10/12 03:40	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		02/10/12 03:40	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119	1		02/10/12 03:40	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 03:40		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Sample: L. NEMAHA DOWNSTREAM **Lab ID: 60115035005** Collected: 02/08/12 12:30 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10	68334-30-5	
Fuel Oil	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10	68553-00-4	
Jet Fuel	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10	94114-58-6	
Kerosene	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10	8008-20-6	
Mineral Spirits	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10	8030-30-6	
Motor Oil	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.43	1	02/09/12 00:00	02/09/12 22:10		
Surrogates								
p-Terphenyl (S)	88	%	20-122	1	02/09/12 00:00	02/09/12 22:10	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/09/12 00:00	02/09/12 22:10	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 03:58		
Benzene	ND	ug/L	1.0	1		02/10/12 03:58	71-43-2	
Toluene	ND	ug/L	1.0	1		02/10/12 03:58	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/10/12 03:58	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/10/12 03:58	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 03:58	110-54-3	
Surrogates								
Dibromofluoromethane (S)	103	%	86-112	1		02/10/12 03:58	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		02/10/12 03:58	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		02/10/12 03:58	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	82-119	1		02/10/12 03:58	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 03:58		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Sample: HOUSEWELL **Lab ID: 60115035006** Collected: 02/08/12 13:10 Received: 02/09/12 08:06 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/09/12 00:00	02/09/12 22:22		
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	02/09/12 00:00	02/09/12 22:22	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/09/12 00:00	02/09/12 22:22	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/10/12 04:15		
Benzene	ND	ug/L	1.0	1		02/10/12 04:15	71-43-2	
Toluene	ND	ug/L	1.0	1		02/10/12 04:15	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/10/12 04:15	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/10/12 04:15	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/10/12 04:15	110-54-3	
Surrogates								
Dibromofluoromethane (S)	107	%	86-112	1		02/10/12 04:15	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		02/10/12 04:15	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		02/10/12 04:15	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	82-119	1		02/10/12 04:15	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/10/12 04:15		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

QC Batch: MSV/43535 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60115035001, 60115035002, 60115035003, 60115035004, 60115035005, 60115035006

METHOD BLANK: 949554 Matrix: Water
Associated Lab Samples: 60115035001, 60115035002, 60115035003, 60115035004, 60115035005, 60115035006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	02/10/12 01:54	
Ethylbenzene	ug/L	ND	1.0	02/10/12 01:54	
Gasoline Range Organics	mg/L	ND	0.50	02/10/12 01:54	
n-Hexane	ug/L	ND	10.0	02/10/12 01:54	
Toluene	ug/L	ND	1.0	02/10/12 01:54	
Xylene (Total)	ug/L	ND	3.0	02/10/12 01:54	
1,2-Dichloroethane-d4 (S)	%	100	82-119	02/10/12 01:54	
4-Bromofluorobenzene (S)	%	99	87-113	02/10/12 01:54	
Dibromofluoromethane (S)	%	102	86-112	02/10/12 01:54	
Toluene-d8 (S)	%	99	90-110	02/10/12 01:54	

LABORATORY CONTROL SAMPLE: 949555

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.2	96	82-117	
Ethylbenzene	ug/L	20	19.3	96	79-121	
Gasoline Range Organics	mg/L	4	3.9	97	63-139	
n-Hexane	ug/L	20	16.6	83	43-118	
Toluene	ug/L	20	19.6	98	80-120	
Xylene (Total)	ug/L	60	58.2	97	79-120	
1,2-Dichloroethane-d4 (S)	%			107	82-119	
4-Bromofluorobenzene (S)	%			99	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			99	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

QC Batch: OEXT/32007 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60115035001, 60115035002, 60115035003, 60115035004, 60115035005, 60115035006

METHOD BLANK: 949151 Matrix: Water
Associated Lab Samples: 60115035001, 60115035002, 60115035003, 60115035004, 60115035005, 60115035006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	02/09/12 20:40	
Fuel Oil	mg/L	ND	0.40	02/09/12 20:40	
Jet Fuel	mg/L	ND	0.40	02/09/12 20:40	
Kerosene	mg/L	ND	0.40	02/09/12 20:40	
Mineral Spirits	mg/L	ND	0.40	02/09/12 20:40	
Motor Oil	mg/L	ND	0.40	02/09/12 20:40	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	02/09/12 20:40	
n-Tetracosane (S)	%	64	30-122	02/09/12 20:40	
p-Terphenyl (S)	%	84	20-122	02/09/12 20:40	

LABORATORY CONTROL SAMPLE: 949152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	3.9	78	47-122	
n-Tetracosane (S)	%			71	30-122	
p-Terphenyl (S)	%			85	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/32007
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: MSV/43535
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE CO NEMAHA NE
Pace Project No.: 60115035

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115035001	**SW-1**	OA2	OEXT/32007	OA2	GCSV/11932
60115035002	**SW-2**	OA2	OEXT/32007	OA2	GCSV/11932
60115035003	**CONFLUENCE**	OA2	OEXT/32007	OA2	GCSV/11932
60115035004	**SW-3**	OA2	OEXT/32007	OA2	GCSV/11932
60115035005	**L. NEMAHA DOWNSTREAM**	OA2	OEXT/32007	OA2	GCSV/11932
60115035006	**HOUSEWELL**	OA2	OEXT/32007	OA2	GCSV/11932
60115035001	**SW-1**	EPA 8260/OA1	MSV/43535		
60115035002	**SW-2**	EPA 8260/OA1	MSV/43535		
60115035003	**CONFLUENCE**	EPA 8260/OA1	MSV/43535		
60115035004	**SW-3**	EPA 8260/OA1	MSV/43535		
60115035005	**L. NEMAHA DOWNSTREAM**	EPA 8260/OA1	MSV/43535		
60115035006	**HOUSEWELL**	EPA 8260/OA1	MSV/43535		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: PACE

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Co. Nemaha, NE

Sample Type

Sample Number			Sample Event		Sample Depth (in feet)		Sample Collected		Matrix			Number of Containers	Analysis						Remarks
Group or SWMU Name	Sample Point	Sample Designator	Round	Year	From	To	Date	Time	Liquid	Solid	Gas		BTEX, n-Hexane (OA1)	TPH (OA2)					60115035
	SW-1						2/8/12	1120	✓				✓	✓	3DG9H,		1AG2U		001
	SW-2						2/8/12	1130	✓				✓	✓					002
	Confluence						2/8/12	1150	✓				✓	✓					003
	SW-3						2/8/12	1210	✓				✓	✓					004
	L. Nemaha Downstream						2/8/12	1230	✓				✓	✓					005
	House Well						2/8/12	1310	✓				✓	✓					006

Sampler (signature): Tom Moriarty

Sampler (signature):

Special Instructions: 2 day TAT

Relinquished By (signature):	Date/Time	Received By (signature):	Date/Time	Ice Present in Container:	Temperature Upon Receipt:
1. [signature]	2/9/12 0811	[signature]	2/9/12 0806	Yes ☑ No ☐	2.1 °C
Relinquished By (signature): 2.	Date/Time	Received By (signature):	Date/Time	Laboratory Comments:	

Sample Condition Upon Receipt

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Client Name: Burns & McDonnell Project # 60115035

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☑ Other VIA

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☑ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional	
Proj. Due Date:	
Proj. Name:	2/.3

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: T-191 / T-194 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2-1

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 2/9/12 [illegible]

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. 2-Day
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 2/9/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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February 21, 2012

TREVOR GUSTAFSON
BURNS & MCDONNELL
9400 Ward Parkway
Kansas City, MO 64114

RE: Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Dear TREVOR GUSTAFSON:
Enclosed are the analytical results for sample(s) received by the laboratory on February 17, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Mr. Glen Ernstmann, Burns & McDonnell Waste Consultants
Mr. Rusty Parkhurst, Burns & McDonnell Waste Consultants

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CERTIFICATIONS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60115483001	SW-1	Water	02/16/12 14:20	02/17/12 09:05
60115483002	SW-2	Water	02/16/12 14:40	02/17/12 09:05
60115483003	CONFLUENCE	Water	02/16/12 15:00	02/17/12 09:05
60115483004	SW-3	Water	02/16/12 15:20	02/17/12 09:05
60115483005	L NEMAHA DOWNSTREAM	Water	02/16/12 15:40	02/17/12 09:05

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SAMPLE ANALYTE COUNT

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60115483001	SW-1	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60115483002	SW-2	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60115483003	CONFLUENCE	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60115483004	SW-3	OA2	SDR	9
		EPA 8260/OA1	JDM	11
60115483005	L NEMAHA DOWNSTREAM	OA2	SDR	9
		EPA 8260/OA1	JDM	11

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Sample: SW-1 **Lab ID: 60115483001** Collected: 02/16/12 14:20 Received: 02/17/12 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:38		
Surrogates								
p-Terphenyl (S)	84	%	20-122	1	02/17/12 00:00	02/17/12 18:38	92-94-4	
n-Tetracosane (S)	84	%	30-122	1	02/17/12 00:00	02/17/12 18:38	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/17/12 10:50		
Benzene	ND	ug/L	1.0	1		02/17/12 10:50	71-43-2	
Toluene	**3.7**	ug/L	1.0	1		02/17/12 10:50	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/17/12 10:50	100-41-4	
Xylene (Total)	**6.4**	ug/L	3.0	1		02/17/12 10:50	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/17/12 10:50	110-54-3	
Surrogates								
Dibromofluoromethane (S)	94	%	86-112	1		02/17/12 10:50	1868-53-7	
Toluene-d8 (S)	107	%	90-110	1		02/17/12 10:50	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		02/17/12 10:50	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		02/17/12 10:50	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/17/12 10:50		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Sample: SW-2 **Lab ID: 60115483002** Collected: 02/16/12 14:40 Received: 02/17/12 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 18:49		
Surrogates								
p-Terphenyl (S)	80	%	20-122	1	02/17/12 00:00	02/17/12 18:49	92-94-4	
n-Tetracosane (S)	81	%	30-122	1	02/17/12 00:00	02/17/12 18:49	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/17/12 11:06		
Benzene	ND	ug/L	1.0	1		02/17/12 11:06	71-43-2	
Toluene	**3.4**	ug/L	1.0	1		02/17/12 11:06	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/17/12 11:06	100-41-4	
Xylene (Total)	**7.5**	ug/L	3.0	1		02/17/12 11:06	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/17/12 11:06	110-54-3	
Surrogates								
Dibromofluoromethane (S)	94	%	86-112	1		02/17/12 11:06	1868-53-7	
Toluene-d8 (S)	107	%	90-110	1		02/17/12 11:06	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		02/17/12 11:06	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	82-119	1		02/17/12 11:06	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/17/12 11:06		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Sample: CONFLUENCE **Lab ID: 60115483003** Collected: 02/16/12 15:00 Received: 02/17/12 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:00		
Surrogates								
p-Terphenyl (S)	80	%	20-122	1	02/17/12 00:00	02/17/12 19:00	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/17/12 00:00	02/17/12 19:00	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/17/12 11:21		
Benzene	ND	ug/L	1.0	1		02/17/12 11:21	71-43-2	
Toluene	ND	ug/L	1.0	1		02/17/12 11:21	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/17/12 11:21	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/17/12 11:21	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/17/12 11:21	110-54-3	
Surrogates								
Dibromofluoromethane (S)	95	%	86-112	1		02/17/12 11:21	1868-53-7	
Toluene-d8 (S)	106	%	90-110	1		02/17/12 11:21	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-113	1		02/17/12 11:21	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		02/17/12 11:21	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/17/12 11:21		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Sample: SW-3 **Lab ID: 60115483004** Collected: 02/16/12 15:20 Received: 02/17/12 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12	68334-30-5	
Fuel Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12	68553-00-4	
Jet Fuel	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12	94114-58-6	
Kerosene	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12	8008-20-6	
Mineral Spirits	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12	8030-30-6	
Motor Oil	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.40	1	02/17/12 00:00	02/17/12 19:12		
Surrogates								
p-Terphenyl (S)	85	%	20-122	1	02/17/12 00:00	02/17/12 19:12	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/17/12 00:00	02/17/12 19:12	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/17/12 11:37		
Benzene	ND	ug/L	1.0	1		02/17/12 11:37	71-43-2	
Toluene	ND	ug/L	1.0	1		02/17/12 11:37	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/17/12 11:37	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/17/12 11:37	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/17/12 11:37	110-54-3	
Surrogates								
Dibromofluoromethane (S)	95	%	86-112	1		02/17/12 11:37	1868-53-7	
Toluene-d8 (S)	108	%	90-110	1		02/17/12 11:37	2037-26-5	
4-Bromofluorobenzene (S)	96	%	87-113	1		02/17/12 11:37	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		02/17/12 11:37	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/17/12 11:37		

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ANALYTICAL RESULTS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Sample: L NEMAHA DOWNSTREAM **Lab ID: 60115483005** Collected: 02/16/12 15:40 Received: 02/17/12 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23	68334-30-5	
Fuel Oil	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23	68553-00-4	
Jet Fuel	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23	94114-58-6	
Kerosene	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23	8008-20-6	
Mineral Spirits	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23	8030-30-6	
Motor Oil	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.91	1	02/17/12 00:00	02/17/12 19:23		
Surrogates								
p-Terphenyl (S)	82	%	20-122	1	02/17/12 00:00	02/17/12 19:23	92-94-4	
n-Tetracosane (S)	83	%	30-122	1	02/17/12 00:00	02/17/12 19:23	646-31-1	
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Gasoline Range Organics	ND	mg/L	0.50	1		02/17/12 11:53		
Benzene	ND	ug/L	1.0	1		02/17/12 11:53	71-43-2	
Toluene	ND	ug/L	1.0	1		02/17/12 11:53	108-88-3	
Ethylbenzene	ND	ug/L	1.0	1		02/17/12 11:53	100-41-4	
Xylene (Total)	ND	ug/L	3.0	1		02/17/12 11:53	1330-20-7	
n-Hexane	ND	ug/L	10.0	1		02/17/12 11:53	110-54-3	
Surrogates								
Dibromofluoromethane (S)	95	%	86-112	1		02/17/12 11:53	1868-53-7	
Toluene-d8 (S)	107	%	90-110	1		02/17/12 11:53	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		02/17/12 11:53	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		02/17/12 11:53	17060-07-0	
Preservation pH	**1.0**		0.10	1		02/17/12 11:53		

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

QC Batch: MSV/43720 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60115483001, 60115483002, 60115483003, 60115483004, 60115483005

METHOD BLANK: 952834 Matrix: Water
Associated Lab Samples: 60115483001, 60115483002, 60115483003, 60115483004, 60115483005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	02/17/12 10:35	
Ethylbenzene	ug/L	ND	1.0	02/17/12 10:35	
Gasoline Range Organics	mg/L	ND	0.50	02/17/12 10:35	
n-Hexane	ug/L	ND	10.0	02/17/12 10:35	
Toluene	ug/L	ND	1.0	02/17/12 10:35	
Xylene (Total)	ug/L	ND	3.0	02/17/12 10:35	
1,2-Dichloroethane-d4 (S)	%	96	82-119	02/17/12 10:35	
4-Bromofluorobenzene (S)	%	99	87-113	02/17/12 10:35	
Dibromofluoromethane (S)	%	95	86-112	02/17/12 10:35	
Toluene-d8 (S)	%	104	90-110	02/17/12 10:35	

LABORATORY CONTROL SAMPLE: 952835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.3	86	82-117	
Ethylbenzene	ug/L	20	19.2	96	79-121	
Gasoline Range Organics	mg/L	4	3.4	85	63-139	
n-Hexane	ug/L	20	14.6	73	43-118	
Toluene	ug/L	20	19.8	99	80-120	
Xylene (Total)	ug/L	60	57.4	96	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			95	87-113	
Dibromofluoromethane (S)	%			95	86-112	
Toluene-d8 (S)	%			107	90-110	

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QUALITY CONTROL DATA

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

QC Batch: OEXT/32118 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 60115483001, 60115483002, 60115483003, 60115483004, 60115483005

METHOD BLANK: 952821 Matrix: Water
Associated Lab Samples: 60115483001, 60115483002, 60115483003, 60115483004, 60115483005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.40	02/17/12 18:15	
Fuel Oil	mg/L	ND	0.40	02/17/12 18:15	
Jet Fuel	mg/L	ND	0.40	02/17/12 18:15	
Kerosene	mg/L	ND	0.40	02/17/12 18:15	
Mineral Spirits	mg/L	ND	0.40	02/17/12 18:15	
Motor Oil	mg/L	ND	0.40	02/17/12 18:15	
Total Petroleum Hydrocarbons	mg/L	ND	0.40	02/17/12 18:15	
n-Tetracosane (S)	%	64	30-122	02/17/12 18:15	
p-Terphenyl (S)	%	71	20-122	02/17/12 18:15	

LABORATORY CONTROL SAMPLE: 952822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	5	4.6	92	47-122	
n-Tetracosane (S)	%			84	30-122	
p-Terphenyl (S)	%			91	20-122	

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QUALIFIERS

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: OEXT/32118

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/43720

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MAGELLAN PIPELINE COMPANY LP
Pace Project No.: 60115483

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60115483001	SW-1	OA2	OEXT/32118	OA2	GCSV/11966
60115483002	SW-2	OA2	OEXT/32118	OA2	GCSV/11966
60115483003	CONFLUENCE	OA2	OEXT/32118	OA2	GCSV/11966
60115483004	SW-3	OA2	OEXT/32118	OA2	GCSV/11966
60115483005	L NEMAHA DOWNSTREAM	OA2	OEXT/32118	OA2	GCSV/11966
60115483001	SW-1	EPA 8260/OA1	MSV/43720		
60115483002	SW-2	EPA 8260/OA1	MSV/43720		
60115483003	CONFLUENCE	EPA 8260/OA1	MSV/43720		
60115483004	SW-3	EPA 8260/OA1	MSV/43720		
60115483005	L NEMAHA DOWNSTREAM	EPA 8260/OA1	MSV/43720		

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Burns & McDonnell SINCE 1898

021706 Form WCD-KC1

Request for Chemical Analysis and Chain of Custody Record

Burns & McDonnell Engineering
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 333-9400 Fax: (816) 822-3494

Attention: Trevor Gustafson

Laboratory: Pace

Address:

City/State/Zip:

Telephone:

Document Control No:

Lab. Reference No. or Episode No.:

Project Number: 65383

Client Name: Magellan Pipeline Company, L.P.

Sample Type

Sample Number: Group or SWMU Name	Sample Number: Sample Point	Sample Number: Sample Designator	Sample Event: Round	Sample Event: Year	Sample Depth (in feet): From	Sample Depth (in feet): To	Sample Collected: Date	Sample Collected: Time	Matrix: Liquid	Matrix: Solid	Matrix: Gas	Number of Containers	Analysis: BTEX, n-Hexane	Analysis: TPH (OA1)	Analysis: TPH (OA2)				Remarks
	SW-1						2/16/12	1420	X			4	X	X	X				AG1U 3(OG9A) 001
	SW-2						2/16/12	1440	X			4	X	X	X				002
	Confluence						2/16/12	1500	X			4	X	X	X				003
	SW-3						2/16/12	1520	X			4	X	X	X				004
	L. Nemaha Downstream						2/16/12	1540	X			4	X	X	X				005

60115483

Sampler (signature): Trevor Gustafson

Sampler (signature):

Special Instructions: 2 day TAT

Relinquished By (signature): 1. Date/Time 2/17/12 0905

Received By (signature): Date/Time 2/17/12 905

Ice Present in Container: Yes ☑ No ☐

Temperature Upon Receipt: 1.7

Relinquished By (signature): 2. Date/Time

Received By (signature): Date/Time

Laboratory Comments:

Sample Condition Upon Receipt

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Client Name: Burns & McD Project # 60115483

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other _____

Tracking #: _____ Pace Shipping Label Used? ☐ Yes ☐ No

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No

Optional	
Proj. Due Date:	2/21
Proj. Name:	

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other _____

Thermometer Used: (T-191) / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 1.7

Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 2/17/12 B

		Comments:
Chain of Custody present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☑ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time requested:	☑ Yes ☐ No ☐ N/A	7. 2-day TAT
Sufficient volume:	☑ Yes ☐ No ☐ N/A	8.
Correct containers used:	☑ Yes ☐ No ☐ N/A	9.
-Pace containers used:	☑ Yes ☐ No ☐ N/A	
Containers intact:	☑ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☑ N/A	11.
Filtered volume received for dissolved tests	☐ Yes ☐ No ☑ N/A	12.
Sample labels match COC:	☑ Yes ☐ No ☐ N/A	13.
-Includes date/time/ID/analyses Matrix: WT		
All containers needing preservation have been checked.	☐ Yes ☐ No ☑ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☑ N/A	
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☑ Yes ☐ No	Initial when completed _____ Lot # of added preservative _____
Trip Blank present:	☐ Yes ☑ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): _____		
Headspace in VOA vials (>6mm):	☐ Yes ☑ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☑ N/A	17. List State: _____

Client Notification/ Resolution: Copy COC to Client? (Y / N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AKB Date: 2/17/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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