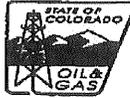


State of Colorado
Oil and Gas Conservation Commission



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax 894-2109

FOR OGCC USE ONLY

Document 2315597
Received 9/30/2015
REM 9277

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

OGCC Employee:

Spill Complaint
 Inspection NOAV

Tracking No: **400870745**

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

Spill or Release Plug & Abandon Central Facility Closure Site/Facility Closure Other (describe): _____

GENERAL INFORMATION

OGCC Operator Number: 47121 Name of Operator: <u>Kerr-McGee Gathering LLC</u> Address: <u>P.O. Box 173779</u> City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>		Contact Name and Telephone Name: <u>Charles Chase</u> No: <u>970-336-3500</u> Fax: <u>970-336-3656</u>	
API/Facility No: _____ Facility Name: <u>Pipeline 16-0000-6069-6"</u> Well Name: _____		County: <u>Arapahoe</u> Facility Number: 442569 Well Number: _____	
Location (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWNW S31 T5S R64W</u> Latitude: <u>39.579580</u> Longitude: <u>-104.601929</u>			

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Oil

Site Conditions: Is location within a sensitive area (according to Rule 901e)? Y N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-Crop Land

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sandy Clay

Potential receptors (water wells within 1/4 mi, surface waters, etc.): The nearest water well is located approximately 1255' northwest of the release area.

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>124' (E-W) x 20' (N-S) x 13.5' bgs</u>	<u>Excavation, drilling, soil sampling, and laboratory analysis</u>
<input type="checkbox"/> Vegetation	_____	_____
<input checked="" type="checkbox"/> Groundwater	<u>See attached data</u>	<u>Groundwater sampling and laboratory analysis</u>
<input type="checkbox"/> Surface water	_____	_____

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

On July 16, 2015, a line failure was discovered on the 16-0000-6069-6" pipeline. The pipeline was isolated, blown down, and excavation activities commenced. Groundwater was encountered in the excavation at approximately 13.5 feet below ground surface (bgs). An Initial Form 19 was submitted to the COGCC on July 18, 2015, and a Supplemental Form 19 was submitted on July 24, 2015. The COGCC has issued Spill Tracking number **442569** for this release.
400870745

Describe how source is to be removed:

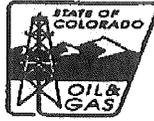
On July 16, 2015, excavation activities commenced and approximately 960 cubic yards of impacted material were removed and transported to the Tower Landfill in Commerce City, Colorado for disposal. Excavation activities were guided in the field using a photoionization detector (PID) to measure volatile organic compound (VOC) concentrations in soil. Soil samples were collected from the sidewalls of the final extent of the excavation area at approximately 12 feet bgs. Soil samples were submitted to Origins Laboratory in Denver, Colorado for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbons (TPH) - gasoline range organics (GRO) by USEPA Method 8260, TPH - diesel range organics and oil range organics (DRO and ORO) by USEPA Method 8015. Laboratory results indicated that constituent concentrations in the soil samples collected from the final lateral extent of the excavation area were below the applicable COGCC Table 910-1 standards. Soils were excavated into the phreatic zone, where applicable, to address potential hydrocarbon impacts that may have been present below the current groundwater table due to seasonal fluctuations. Groundwater was encountered in the northwest portion of the excavation at approximately 13.5 feet bgs. A groundwater sample (GW01) was collected and submitted for laboratory analysis of BTEX. Analytical results received on July 21, 2015, indicated that benzene concentrations in sample GW01 were above the applicable COGCC Table 910-1 groundwater standards. Approximately one barrel of impacted groundwater was removed from the excavation via hydroexcavator and transported to the Tower Landfill in Commerce City, Colorado for disposal. A second groundwater sample (GW02) was subsequently collected from the excavation area and submitted for laboratory analysis of BTEX. Analytical results received on July 23, 2015, indicated that the benzene concentration in sample GW02 remained above applicable COGCC Table 910-1 groundwater standards. Soil analytical results are summarized in Table 1 and groundwater analytical results are summarized in Table 2. Soil and excavation groundwater sample locations are illustrated on Figure 1 and laboratory analytical reports are included as Attachment A.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Impacted soil and groundwater slurry were excavated and transported to the Tower Landfill in Commerce City, Colorado for disposal. Prior to backfilling the excavation, 105 pounds of activated carbon were added to the groundwater table to mitigate remaining hydrocarbon impacts. Additional proposed groundwater remediation measures are described on the following page.

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado (303) 894-2100 Fax 894-2109



Tracking Number: Name of Operator: OGCC Operator No: Received Date: 9/30/15 Well Name & No.: Facility Name & No.:

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.): Between July 29, and August 3, 2015, five temporary groundwater monitoring/remediation wells (BH01-BH05) were installed to further assess the extent of groundwater impacts. Groundwater samples were collected from the temporary monitoring wells on August 5, 2015. Samples were submitted to Origins Laboratory in Denver, Colorado for analysis of BTEX by USEPA Method 8260. Temporary monitoring well locations and groundwater analytical results are illustrated on Figure 2, and a groundwater elevation contour map is presented on Figure 3. Groundwater analytical results are summarized in Table 2 and the groundwater laboratory analytical reports and well completion diagrams are included as Attachments A and B, respectively. Quarterly groundwater monitoring at the temporary monitoring locations will be conducted until BTEX concentrations remain below COGCC groundwater standards for four consecutive quarters.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required. The excavation has been backfilled with clean soil and graded to match the adjacent topography. Reclamation activities at the site will be compliant with COGCC regulations.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing. Is further site investigation required? [X] Y [] N If yes, describe: Data indicate that impacted soil has been delineated and removed from the site. Temporary monitoring/remediation wells have been installed to assess groundwater impacts. Soil and groundwater analytical results are summarized in Tables 1 and 2, respectively. The analytical laboratory reports are included as Attachment A.

Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.): Impacted soil and groundwater slurry were transported to the Tower Landfill in Commerce City, Colorado.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 7/16/2015 Date Site Investigation Completed: TBD Remediation Plan Submitted: Remediation Start Date: 7/16/2015 Anticipated Completion Date: 3/1/2017 Actual Completion Date:

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete. Print Name: Charles Chase

Signed: [Signature] Title: Staff HSE Representative Date: 9/29/15

OGCC Approved: Title: EPS Date: 9/29/15

FIGURES



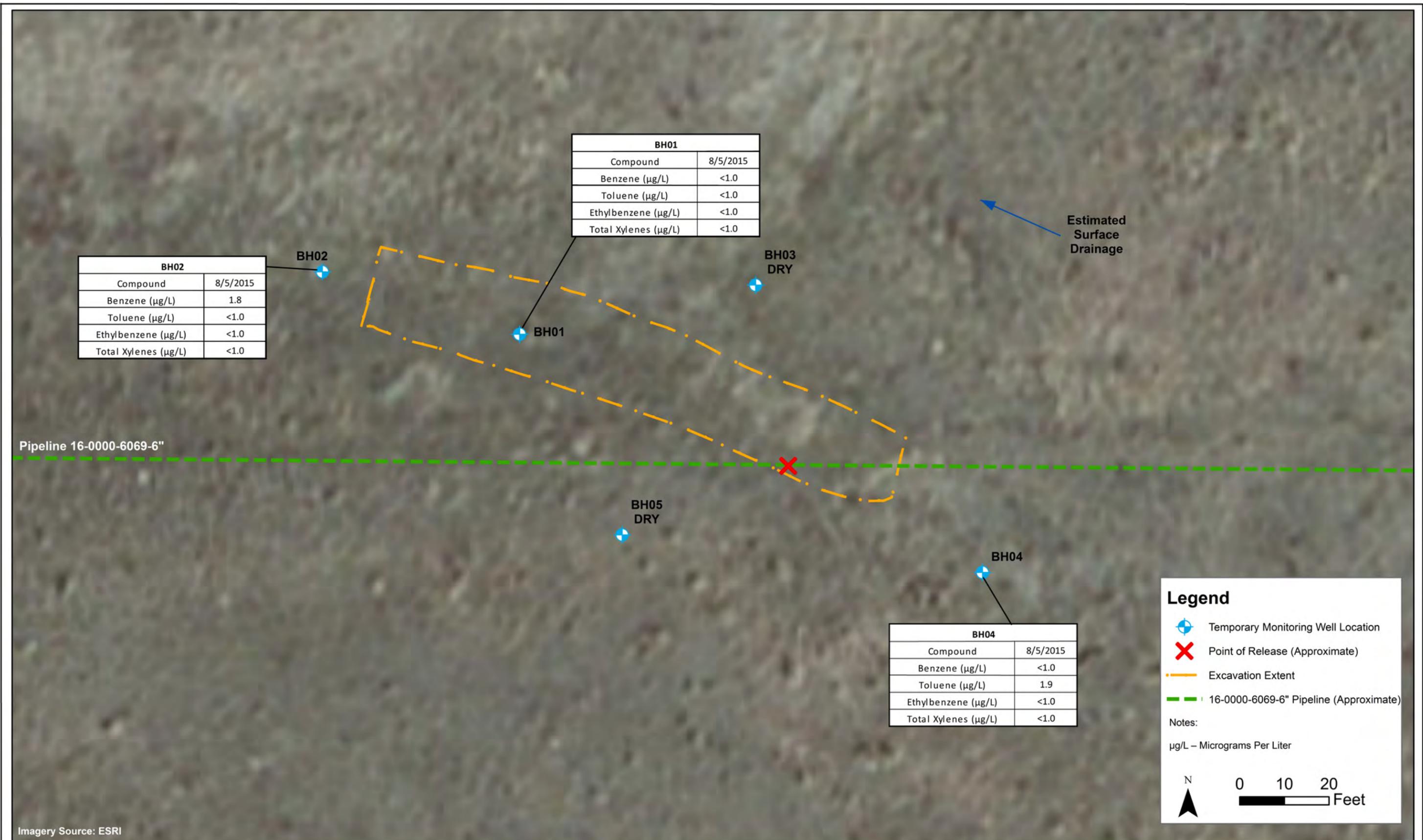
DATE: September 2015
 DESIGNED BY: C. Wasko
 DRAWN BY: R. Bruner



Kerr-McGee Gathering, LLC
Pipeline 16-0000-6069-6"
 NWNW S31 T5S R64W
 Arapahoe, Colorado

Site and Sample Location
 Map

Figure
 1



DATE:	September 2015
DESIGNED BY:	C. Wasko
DRAWN BY:	D. Arnold



Kerr-McGee Gathering, LLC
Pipeline 16-0000-6069-6"
NWNW S31 T5S R64W
Arapahoe County, CO

Groundwater Analytical
Results
Map

Figure
2



DATE:	August 2015
DESIGNED BY:	C. Wasko
DRAWN BY:	D. Arnold



TASMAN
GEOSCIENCES
Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

Kerr-McGee Gathering, LLC
Pipeline 16-0000-6069-6"
NWNW S31 T5S R64W
Arapahoe County, CO

Groundwater Elevation
Map
(August 5, 2015)

Figure
3

**ANALYTICAL
TABLES**

TABLE 1
PIPELINE 16-0000-6069-6"
SOIL SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE GATHERING, LLC

Sample ID	Date Sampled	Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TVPH - GRO (mg/kg)	TEPH - DRO (mg/kg)	TEPH - ORO (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	500		
N01 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
N02 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
N03 @ 12'	7/20/2015	12	0.013	<0.002	<0.002	0.023	<0.200	<50	<200
N04 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
N05 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
W01 @ 12'	7/20/2015	12	0.072	0.058	<0.002	0.020	0.229	<50	<200
E01 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S01 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S02 @ 12'	7/20/2015	12	0.002	0.002	<0.002	<0.002	<0.200	<50	<200
S03 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S04 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S05 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B01 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B02 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B03 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B04 @ 13'	7/20/2015	13	0.011	<0.002	<0.002	<0.002	<0.200	<50	<200
B05 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TVPH - GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH - ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram.

bgs = Below ground surface.

BOLD = Analytical result is in exceedance of COGCC Table 910-1 soil standards.

TABLE 2
PIPELINE 16-0000-6069-6"
GROUNDWATER SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE GATHERING, LLC

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth To Water (ft bgs)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
GW01	7/20/2015	227	186	<4.0	100	~13.5
GW02	7/22/2015	150	206	3.1	92.1	~13.5
BH01	8/5/2015	<1.0	<1.0	<1.0	<1.0	11.47
BH02	8/5/2015	1.8	<1.0	<1.0	<1.0	8.22
BH03	8/5/2015					DRY
BH04	8/5/2015	<1.0	1.9	<1.0	<1.0	22.60
BH05	8/5/2015					DRY

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

(<) = Analytical result is less than the indicated laboratory reporting limit.

BOLD= Analytical result is in exceedance of COGCC groundwater standards.

**ATTACHMENT A
LABORATORY
ANALYTICAL REPORTS**

July 21, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-0000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-0000-6069-6 received by Origins Laboratory, Inc. July 20, 2015. This project is associated with Origins project number X507279-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@12	X507279-01	Soil	July 20, 2015 11:40	07/20/2015 17:00
N02@12	X507279-02	Soil	July 20, 2015 11:42	07/20/2015 17:00
N03@12	X507279-03	Soil	July 20, 2015 11:44	07/20/2015 17:00
N04@12	X507279-04	Soil	July 20, 2015 11:46	07/20/2015 17:00
N05@12	X507279-05	Soil	July 20, 2015 11:48	07/20/2015 17:00
W01@12	X507279-06	Soil	July 20, 2015 11:50	07/20/2015 17:00
E01@12	X507279-07	Soil	July 20, 2015 11:52	07/20/2015 17:00
S01@12	X507279-08	Soil	July 20, 2015 11:54	07/20/2015 17:00
S02@12	X507279-09	Soil	July 20, 2015 11:56	07/20/2015 17:00
S03@12	X507279-10	Soil	July 20, 2015 11:58	07/20/2015 17:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S04@12	X507279-11	Soil	July 20, 2015 12:00	07/20/2015 17:00
S05@12	X507279-12	Soil	July 20, 2015 12:02	07/20/2015 17:00
B01@13	X507279-13	Soil	July 20, 2015 12:04	07/20/2015 17:00
B02@13	X507279-14	Soil	July 20, 2015 12:06	07/20/2015 17:00
B03@13	X507279-15	Soil	July 20, 2015 12:08	07/20/2015 17:00
B04@13	X507279-16	Soil	July 20, 2015 12:10	07/20/2015 17:00
B05@13	X507279-17	Soil	July 20, 2015 12:12	07/20/2015 17:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

page 2 of 2

X50729

ORIGINS

Client: APC-midstream/Tasman
 address: C Wasko
 Project Name: Pipeline 16-0000-6069-6
 Project Number: Elliot Dillar-Karzon
 Telephone Number: 720 409 879
 Email Address: cwasko@tasman-gas.com

1725 Elf Place | Denver CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Pres. vol.				Air Sample	Other	Analysis	Turnaround Time
				Unpreserved	HCl	HNO ₃	Off				
S04@12	07/24/15	1200	1	X				X	IS S O B T I O S	Same Day <input checked="" type="checkbox"/> 2-Hr 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>	
S05@12		1202									
B01@13		1204									
B02@13		1206									
B03@13		1208									
B04@13	3 rd 7/20/15	1700	1	X				X			
B05@13		1712									

All samples labeled
 Quantity and Waterns
 please refer to project
 Sample Instructions
 as Pipeline 16-0000-6069

Relinquished By: [Signature] Date: 07/20/15 Time: 17:00
 Relinquished By: [Signature] Date: 7.20.15 Time: 1700

Date Result Requested: 11 |

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 1507279

Client: Tasman Geosciences

Client Project ID: KMG-Pipeline 16-0000-6069-6

Checklist Completed by: Joe Henderson

Shipped Via: Pickup
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/20/15 18:14

Airbill #: _____

Matrix(s) Received: (Check all that apply): Soil/Solid _____ Water _____ Other: _____

Cooler Number/Temperature: 1 / 4.1 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			<u>SH 7/20/15</u>
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			X	

Additional Comments (if any):
No sample times present on COC. Contacted sampler (Elliot Dillon) to confirm times via phone call on 7/20/15 at 1740

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: [Signature] (Project Manager) Date/Time Reviewed: 7/21/15

Origins Laboratory, Inc.

Joe Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N01@12
7/20/2015 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 102 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.4 % 70-130 " " "

Surrogate: Toluene-d8 96.2 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.5 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N02@12
7/20/2015 11:42:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 98.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.5 % 70-130 " " "

Surrogate: Toluene-d8 97.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N03@12
7/20/2015 11:44:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 109 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	0.013	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	0.023	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.9 % 70-130 " " "
Surrogate: Toluene-d8 97.8 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N04@12
7/20/2015 11:46:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 96.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 96.4 % 70-130 " " "

Surrogate: Toluene-d8 96.0 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.5 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N05@12
7/20/2015 11:48:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 92.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 97.0 % 70-130 " " "

Surrogate: Toluene-d8 97.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

W01@12
7/20/2015 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 103 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	0.229	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	0.072	0.002	"	"	"	"	"	
Toluene	0.058	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	0.020	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 92.3 % 70-130 " " "
Surrogate: Toluene-d8 97.5 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

E01@12
7/20/2015 11:52:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-07 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 84.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.2 % 70-130 " " "

Surrogate: Toluene-d8 97.1 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S01@12
7/20/2015 11:54:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-08 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 99.6 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.6 % 70-130 " " "

Surrogate: Toluene-d8 95.7 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.6 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S02@12
7/20/2015 11:56:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-09 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 95.0 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	0.002	0.002	"	"	"	"	"	
Toluene	0.002	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.8 % 70-130 " " "
Surrogate: Toluene-d8 96.3 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S03@12
 7/20/2015 11:58:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
 X507279-10 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 92.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.7 % 70-130 " " "

Surrogate: Toluene-d8 96.6 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S04@12
7/20/2015 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-11 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 88.4 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.050	"	"	"	"	"	
Toluene	ND	0.050	"	"	"	"	"	
Ethylbenzene	ND	0.050	"	"	"	"	"	
Xylenes, total	ND	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 88.5 % 70-130 " " "

Surrogate: Toluene-d8 99.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.1 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S05@12
7/20/2015 12:02:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-12 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 97.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 96.1 % 70-130 " " "

Surrogate: Toluene-d8 96.8 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B01@13

7/20/2015 12:04:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-13 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 97.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 92.6 % 70-130 " " "

Surrogate: Toluene-d8 97.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B02@13

7/20/2015 12:06:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-14 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 94.6 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.0 % 70-130 " " "

Surrogate: Toluene-d8 96.6 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B03@13

7/20/2015 12:08:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-15 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 89.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 93.6 % 70-130 " " "

Surrogate: Toluene-d8 96.8 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B04@13

7/20/2015 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-16 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 99.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	0.011	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.2 % 70-130 " " "
Surrogate: Toluene-d8 96.9 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B05@13
7/20/2015 12:12:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-17 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 83.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "

Surrogate: Toluene-d8 95.3 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.2 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Blank (5G20013-BLK1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	59.7		ug/kg	62.5		95.6	70-130			
Surrogate: Toluene-d8	60.1		"	62.5		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	63.5		"	62.5		102	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Blank (5G20013-BLK2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	68.1		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	62.5		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63.2		"	62.5		101	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

LCS (5G20013-BS1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	0.087	0.002	mg/kg	0.100		87.3	77.1-124			
Toluene	0.085	0.002	"	0.100		85.5	74.5-128			
Ethylbenzene	0.083	0.002	"	0.100		83.5	66.4-127			
m,p-Xylene	0.167	0.004	"	0.200		83.4	76.6-124			
o-Xylene	0.087	0.002	"	0.100		87.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	55.4		ug/kg	62.5		88.7	70-130			
Surrogate: Toluene-d8	61.3		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	62.2		"	62.5		99.5	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

LCS (5G20013-BS2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	0.099	0.002	mg/kg	0.100		99.0	77.1-124			
Toluene	0.101	0.002	"	0.100		101	74.5-128			
Ethylbenzene	0.100	0.002	"	0.100		100	66.4-127			
m,p-Xylene	0.202	0.004	"	0.200		101	76.6-124			
o-Xylene	0.102	0.002	"	0.100		102	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67.7		ug/kg	62.5		108	70-130			
Surrogate: Toluene-d8	64.0		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	61.9		"	62.5		99.0	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike (5G20013-MS1)	Source: X507279-01			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.089	0.002	mg/kg	0.100	ND	88.8	71.8-126			
Toluene	0.088	0.002	"	0.100	ND	87.5	65.1-130			
Ethylbenzene	0.089	0.002	"	0.100	ND	88.7	62.2-130			
m,p-Xylene	0.176	0.004	"	0.200	ND	88.0	46.5-137			
o-Xylene	0.091	0.002	"	0.100	ND	91.4	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	53.9		ug/kg	62.5		86.3	70-130			
Surrogate: Toluene-d8	61.6		"	62.5		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	62.6		"	62.5		100	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike (5G20013-MS2)	Source: X507279-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.085	0.002	mg/kg	0.100	ND	84.8	71.8-126			
Toluene	0.084	0.002	"	0.100	ND	84.2	65.1-130			
Ethylbenzene	0.086	0.002	"	0.100	ND	86.4	62.2-130			
m,p-Xylene	0.170	0.004	"	0.200	ND	85.2	46.5-137			
o-Xylene	0.090	0.002	"	0.100	ND	89.9	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	54.4		ug/kg	62.5		87.0	70-130			
Surrogate: Toluene-d8	61.8		"	62.5		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	63.5		"	62.5		102	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike Dup (5G20013-MSD1)	Source: X507279-01			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.088	0.002	mg/kg	0.100	ND	87.6	71.8-126	1.34	11.3	
Toluene	0.087	0.002	"	0.100	ND	86.9	65.1-130	0.757	15.4	
Ethylbenzene	0.085	0.002	"	0.100	ND	84.8	62.2-130	4.57	19.6	
m,p-Xylene	0.171	0.004	"	0.200	ND	85.3	46.5-137	3.13	19.2	
o-Xylene	0.088	0.002	"	0.100	ND	88.3	54.2-134	3.45	17.9	
Surrogate: 1,2-Dichloroethane-d4	54.5		ug/kg	62.5		87.2	70-130			
Surrogate: Toluene-d8	61.9		"	62.5		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	61.8		"	62.5		98.9	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike Dup (5G20013-MSD2)	Source: X507279-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.085	0.002	mg/kg	0.100	ND	84.8	71.8-126	0.00	11.3	
Toluene	0.082	0.002	"	0.100	ND	81.8	65.1-130	2.87	15.4	
Ethylbenzene	0.083	0.002	"	0.100	ND	82.7	62.2-130	4.47	19.6	
m,p-Xylene	0.162	0.004	"	0.200	ND	80.8	46.5-137	5.23	19.2	
o-Xylene	0.086	0.002	"	0.100	ND	86.3	54.2-134	4.06	17.9	
Surrogate: 1,2-Dichloroethane-d4	55.0		ug/kg	62.5		87.9	70-130			
Surrogate: Toluene-d8	60.9		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	61.4		"	62.5		98.3	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20012 - EPA 3580

Blank (5G20012-BLK1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	50		"	50.0		101	59-131			

Blank (5G20012-BLK2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	49		"	50.0		97.8	59-131			

LCS (5G20012-BS1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	980	50	mg/kg	1000		97.6	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		104	58-124			
Surrogate: o-Terphenyl	48		"	50.0		96.8	59-131			

LCS (5G20012-BS2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	930	50	mg/kg	1000		92.6	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		101	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.2	59-131			

Matrix Spike (5G20012-MS1)

Source: X507279-01

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	950	50	mg/kg	1000	ND	94.9	53-125			
Residual Range Organics (C28-C36)	940	200	"	1000	ND	93.9	47-133			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5G20012 - EPA 3580										
Matrix Spike (5G20012-MS1)		Source: X507279-01			Prepared: 07/20/2015 Analyzed: 07/20/2015					
Surrogate: o-Terphenyl	47		mg/kg	50.0		93.7	59-131			
Matrix Spike (5G20012-MS2)		Source: X507279-02			Prepared: 07/20/2015 Analyzed: 07/20/2015					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	102	53-125			
Residual Range Organics (C28-C36)	920	200	"	1000	ND	92.1	47-133			
Surrogate: o-Terphenyl	49		"	50.0		97.9	59-131			
Matrix Spike Dup (5G20012-MSD1)		Source: X507279-01			Prepared: 07/20/2015 Analyzed: 07/20/2015					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	102	53-125	7.28	20	
Residual Range Organics (C28-C36)	960	200	"	1000	ND	95.9	47-133	2.15	20	
Surrogate: o-Terphenyl	51		"	50.0		101	59-131			
Matrix Spike Dup (5G20012-MSD2)		Source: X507279-02			Prepared: 07/20/2015 Analyzed: 07/20/2015					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	103	53-125	0.987	20	
Residual Range Organics (C28-C36)	920	200	"	1000	ND	92.3	47-133	0.242	20	
Surrogate: o-Terphenyl	50		"	50.0		100	59-131			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

July 21, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-0000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-0000-6069-6 received by Origins Laboratory, Inc. July 20, 2015. This project is associated with Origins project number X507280-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	X507280-01	Water	July 20, 2015 13:00	07/20/2015 17:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X567280

Client: Tasman Geosciences
 Client Project ID: Pipeline 16-0000-6069-9

Checklist Completed by: Joe Henderson
 Date/time completed: 7/20/15 1816

Shipped Via: Pickup
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: _____

Matrix(s) Received: (Check all that apply): _____ Soil/Solid Water _____ Other: _____

Cooler Number/Temperature: 1 / 4.1 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 5°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	X			HC1
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

[Signature]
 Reviewed by (Project Manager)

7/21/15
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

GW01
7/20/2015 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507280-01 (Water)

BTEX by EPA 8260C

Benzene	227	4.0	ug/L	4	5G20007	07/20/2015	07/20/2015	
Toluene	186	4.0	"	"	"	"	"	
Ethylbenzene	ND	4.0	"	"	"	"	"	
Xylenes, total	100	4.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	100 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	98.4 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

Blank (5G20007-BLK1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		97.5	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

LCS (5G20007-BS1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	51.0	1.0	ug/L	50.0		102	75-126			
Toluene	51.7	1.0	"	50.0		103	78.7-126			
Ethylbenzene	53.5	1.0	"	50.0		107	80-130			
m,p-Xylene	106	2.0	"	100		106	77.2-133			
o-Xylene	52.6	1.0	"	50.0		105	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.4	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.6	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.1	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

Matrix Spike (5G20007-MS1)	Source: X507226-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	53.7	1.0	ug/L	50.0	ND	107	74-130			
Toluene	53.4	1.0	"	50.0	ND	107	73-131			
Ethylbenzene	55.5	1.0	"	50.0	ND	111	76-132			
m,p-Xylene	110	2.0	"	100	ND	110	69-139			
o-Xylene	53.8	1.0	"	50.0	ND	108	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.2	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.1	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

Matrix Spike Dup (5G20007-MSD1)	Source: X507226-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	55.5	1.0	ug/L	50.0	ND	111	74-130	3.28	20	
Toluene	55.0	1.0	"	50.0	ND	110	73-131	2.92	20	
Ethylbenzene	56.2	1.0	"	50.0	ND	112	76-132	1.20	20	
m,p-Xylene	111	2.0	"	100	ND	111	69-139	0.843	20	
o-Xylene	54.8	1.0	"	50.0	ND	110	74-131	1.80	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		95.1	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		98.9	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.6	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

July 23, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-000-6069-6 received by Origins Laboratory, Inc. July 22, 2015. This project is associated with Origins project number X507312-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	X507312-01	Water	July 22, 2015 10:50	07/22/2015 17:45

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: XS07312

Client: Tasman

Client Project ID: Pipeline 16-000-6069-6

Checklist Completed by: Jeff Smith

Shipped Via: H/D
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/22/15

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 4.6 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jeff Smith
 Reviewed by (Project Manager)

7/22/15
 Date/Time Reviewed

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

GW02
7/22/2015 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507312-01 (Water)

BTEX by EPA 8260C

Benzene	150	1.0	ug/L	1	5G22011	07/22/2015	07/22/2015	
Toluene	206	10.0	"	10	"	"	07/22/2015	
Ethylbenzene	3.1	1.0	"	1	"	"	07/22/2015	
Xylenes, total	92.1	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.8 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	102 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

Blank (5G22011-BLK1)

Prepared: 07/22/2015 Analyzed: 07/22/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5	96.5		87.3-113			
Surrogate: Toluene-d8	61		"	62.5	97.7		90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.4		88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

LCS (5G22011-BS1)

Prepared: 07/22/2015 Analyzed: 07/22/2015

Benzene	51.9	1.0	ug/L	50.0		104	75-126			
Toluene	50.7	1.0	"	50.0		101	78.7-126			
Ethylbenzene	51.5	1.0	"	50.0		103	80-130			
m,p-Xylene	102	2.0	"	100		102	77.2-133			
o-Xylene	52.6	1.0	"	50.0		105	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		89.9	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		98.2	90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.0	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

Matrix Spike (5G22011-MS1)	Source: X507301-01			Prepared: 07/22/2015 Analyzed: 07/22/2015						
Benzene	48.8	1.0	ug/L	50.0	ND	97.6	74-130			
Toluene	46.2	1.0	"	50.0	ND	92.5	73-131			
Ethylbenzene	46.5	1.0	"	50.0	ND	92.9	76-132			
m,p-Xylene	93.4	2.0	"	100	ND	93.4	69-139			
o-Xylene	46.7	1.0	"	50.0	ND	93.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.0	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		97.9	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.6	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

Matrix Spike Dup (5G22011-MSD1)	Source: X507301-01			Prepared: 07/22/2015 Analyzed: 07/22/2015						
Benzene	53.6	1.0	ug/L	50.0	ND	107	74-130	9.45	20	
Toluene	53.6	1.0	"	50.0	ND	107	73-131	14.8	20	
Ethylbenzene	55.3	1.0	"	50.0	ND	111	76-132	17.3	20	
m,p-Xylene	108	2.0	"	100	ND	108	69-139	14.7	20	
o-Xylene	53.9	1.0	"	50.0	ND	108	74-131	14.5	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.8	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.8	90.9-108			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

August 12, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-0000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-0000-6069-6 received by Origins Laboratory, Inc. August 05, 2015. This project is associated with Origins project number X508052-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	X508052-01	Water	August 5, 2015 11:16	08/05/2015 16:40
BH02	X508052-02	Water	August 5, 2015 11:14	08/05/2015 16:40
BH04	X508052-03	Water	August 5, 2015 11:24	08/05/2015 16:40

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X508052

Client: Tasman

Client Project ID: Pipeline

Checklist Completed by: Jeff Smith

Shipped Via: HD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 8/6/15

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 2.4 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X	8/6/15 JCS	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	X			HCC
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jeff Smith
 Reviewed by (Project Manager)

8/6/15
 Date/Time Reviewed

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

BH01
8/5/2015 11:16:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X508052-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H06014	08/06/2015	08/07/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	113 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.1 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

BH02

8/5/2015 11:14:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X508052-02 (Water)

BTEX by EPA 8260C

Benzene	1.8	1.0	ug/L	1	5H06014	08/06/2015	08/07/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	110 %	84-121			"	"	"	
Surrogate: Toluene-d8	96.5 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

BH04

8/5/2015 11:24:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X508052-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H06014	08/06/2015	08/07/2015	
Toluene	1.9	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
<hr/>								
Surrogate: 1,2-Dichloroethane-d4	112 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

Blank (5H06014-BLK1)

Prepared: 08/06/2015 Analyzed: 08/07/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5	108		84-121			
Surrogate: Toluene-d8	60		"	62.5	96.1		85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.8		84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

LCS (5H06014-BS1)

Prepared: 08/06/2015 Analyzed: 08/07/2015

Benzene	46.6	1.0	ug/L	50.0		93.2	75-126			
Toluene	44.2	1.0	"	50.0		88.5	78.7-126			
Ethylbenzene	43.5	1.0	"	50.0		87.0	80-130			
m,p-Xylene	86.1	2.0	"	100		86.1	77.2-133			
o-Xylene	44.4	1.0	"	50.0		88.7	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		103	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.1	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

Matrix Spike (5H06014-MS1)	Source: X508045-02			Prepared: 08/06/2015 Analyzed: 08/07/2015						
Benzene	51.5	1.0	ug/L	50.0	ND	103	74-130			
Toluene	50.3	1.0	"	50.0	ND	101	73-131			
Ethylbenzene	51.5	1.0	"	50.0	ND	103	76-132			
m,p-Xylene	100	2.0	"	100	ND	100	69-139			
o-Xylene	48.6	1.0	"	50.0	ND	97.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.1	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.5	84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

Matrix Spike Dup (5H06014-MSD1)	Source: X508045-02			Prepared: 08/06/2015 Analyzed: 08/07/2015						
Benzene	49.7	1.0	ug/L	50.0	ND	99.4	74-130	3.50	20	
Toluene	49.7	1.0	"	50.0	ND	99.4	73-131	1.14	20	
Ethylbenzene	51.0	1.0	"	50.0	ND	102	76-132	1.03	20	
m,p-Xylene	99.7	2.0	"	100	ND	99.7	69-139	0.250	20	
o-Xylene	49.1	1.0	"	50.0	ND	98.2	74-131	0.982	20	
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.8	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

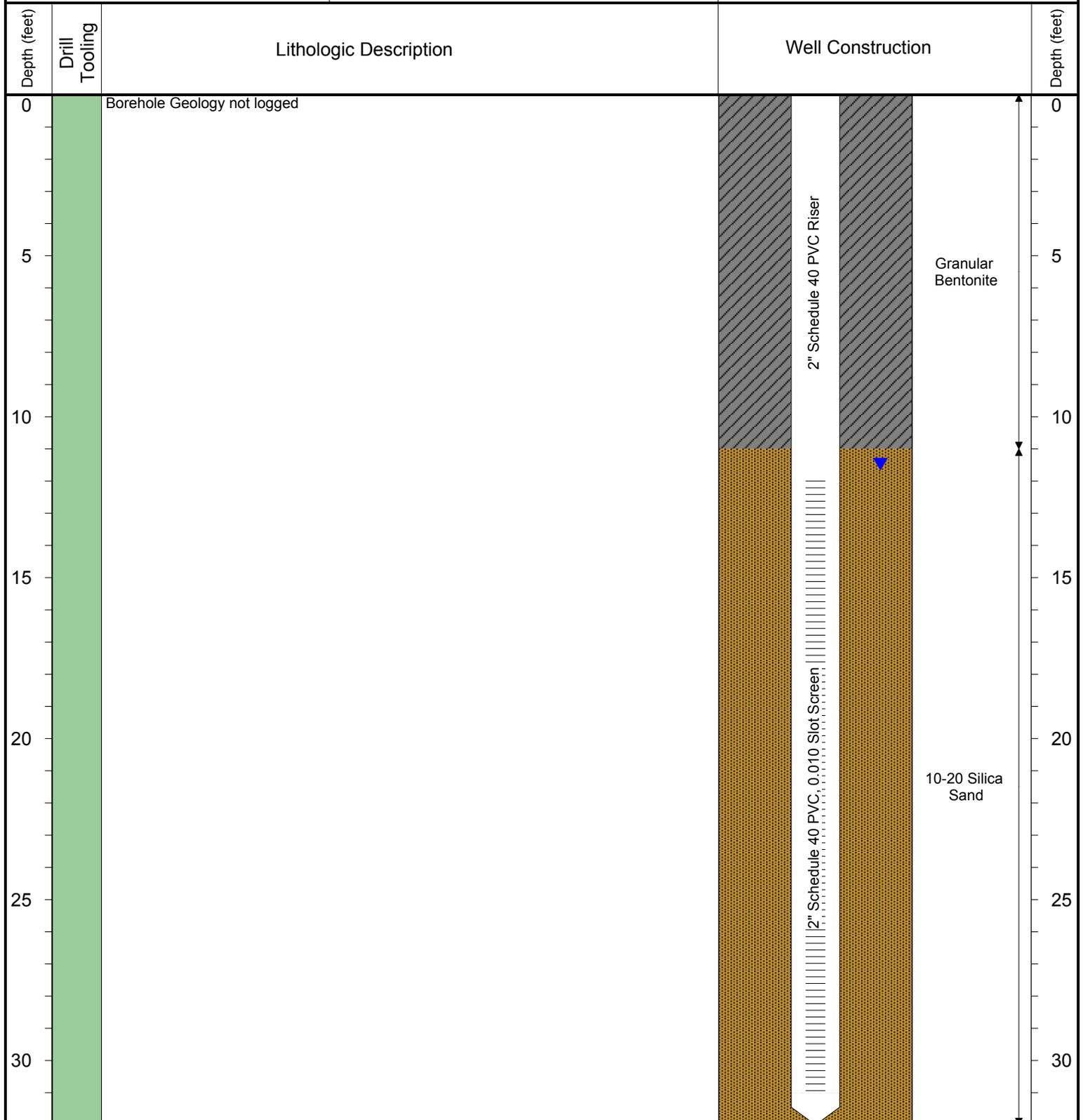
**ATTACHMENT B
WELL COMPLETION
LOGS**



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 7/29/15
 TOTAL WELL DEPTH (FT. BGS): 32
 DEPTH TO WATER (FT. BGS): 11.47 ▼

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH01
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1091011.2
 EASTING (CO STATE PLANE): 3253084.32
 CASING ELEVATION (FT. AMSL): 5979.405
 GROUND ELEVATION (FT. AMSL): 5979.495



Drilling / Sample Method:

- Macro-Core
- Perforated Injection Tool
- Geotechnical Lab
- Geotechnical & Analytical Chemistry Lab
- Expendable Well Tip
- HydroPunch Groundwater Sampler
- Analytical Chemistry Lab

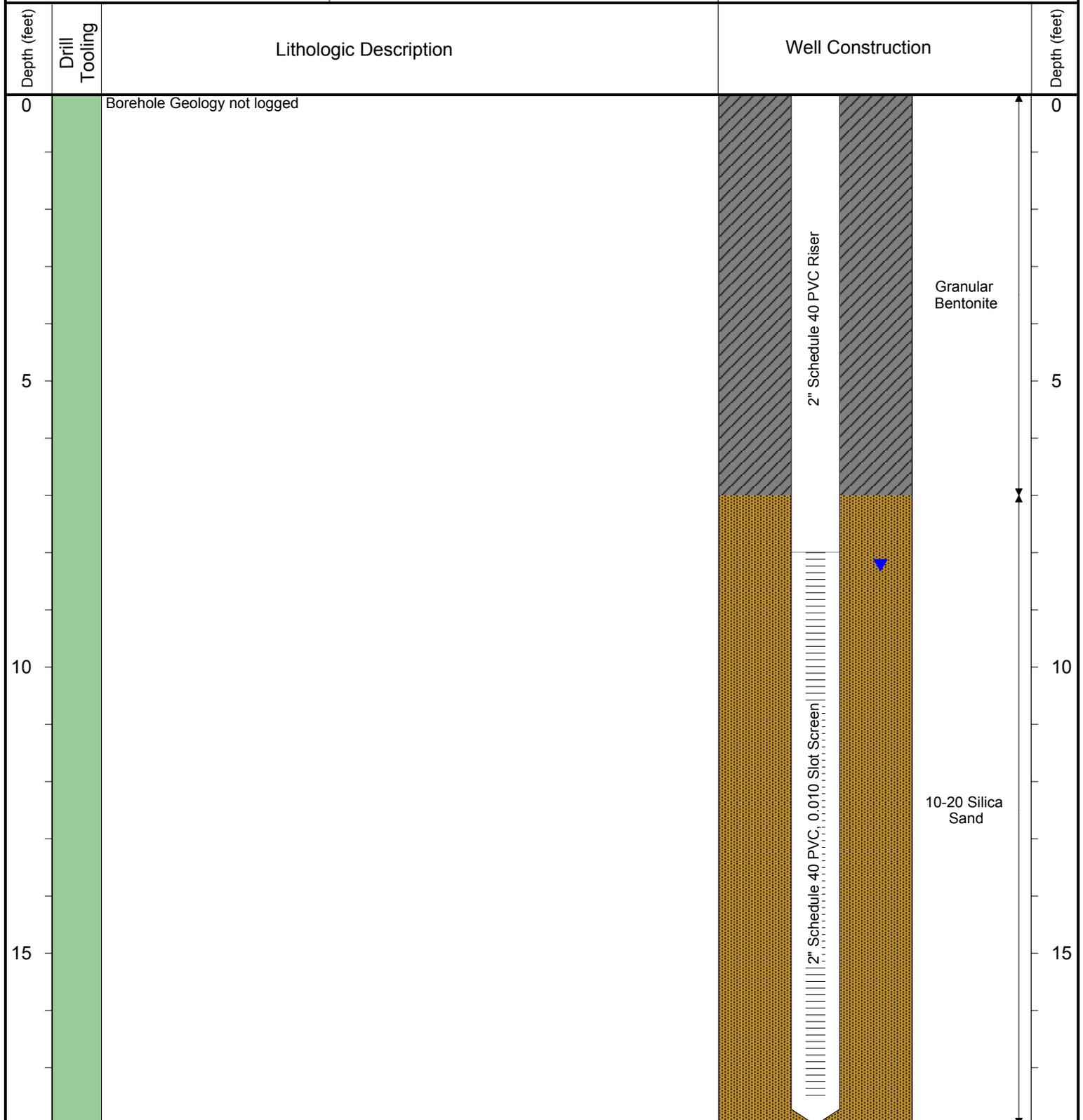
Laboratory Sample Types:



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 8/3/15
 TOTAL WELL DEPTH (FT. BGS): 18
 DEPTH TO WATER (FT. BGS): 8.22

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH02
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1091024.89
 EASTING (CO STATE PLANE): 3253040.12
 CASING ELEVATION (FT. AMSL): 5978.465
 GROUND ELEVATION (FT. AMSL): 5978.705



Drilling / Sample Method:
 Macro-Core (Green square)
 Expendable Well Tip (Dark Green square)

Laboratory Sample Types:
 Perforated Injection Tool (Yellow square)
 HydroPunch Groundwater Sampler (Blue square)
 Geotechnical Lab (Purple square)
 Analytical Chemistry Lab (Yellow square)
 Geotechnical & Analytical Chemistry Lab (Blue/Yellow diagonal square)



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP

LOGGED BY: Brandon LeVasseur

PROJECT MANAGER: Robert Cornez

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Direct Push

DRILL BIT SIZE (INCHES): 2 3/8"

DATE STARTED - COMPLETED: 8/3/15

TOTAL WELL DEPTH (FT. BGS): 23

DEPTH TO WATER (FT. BGS): Dry

Pipeline 16-0000-6069-6"

BORING / WELL ID: BH03

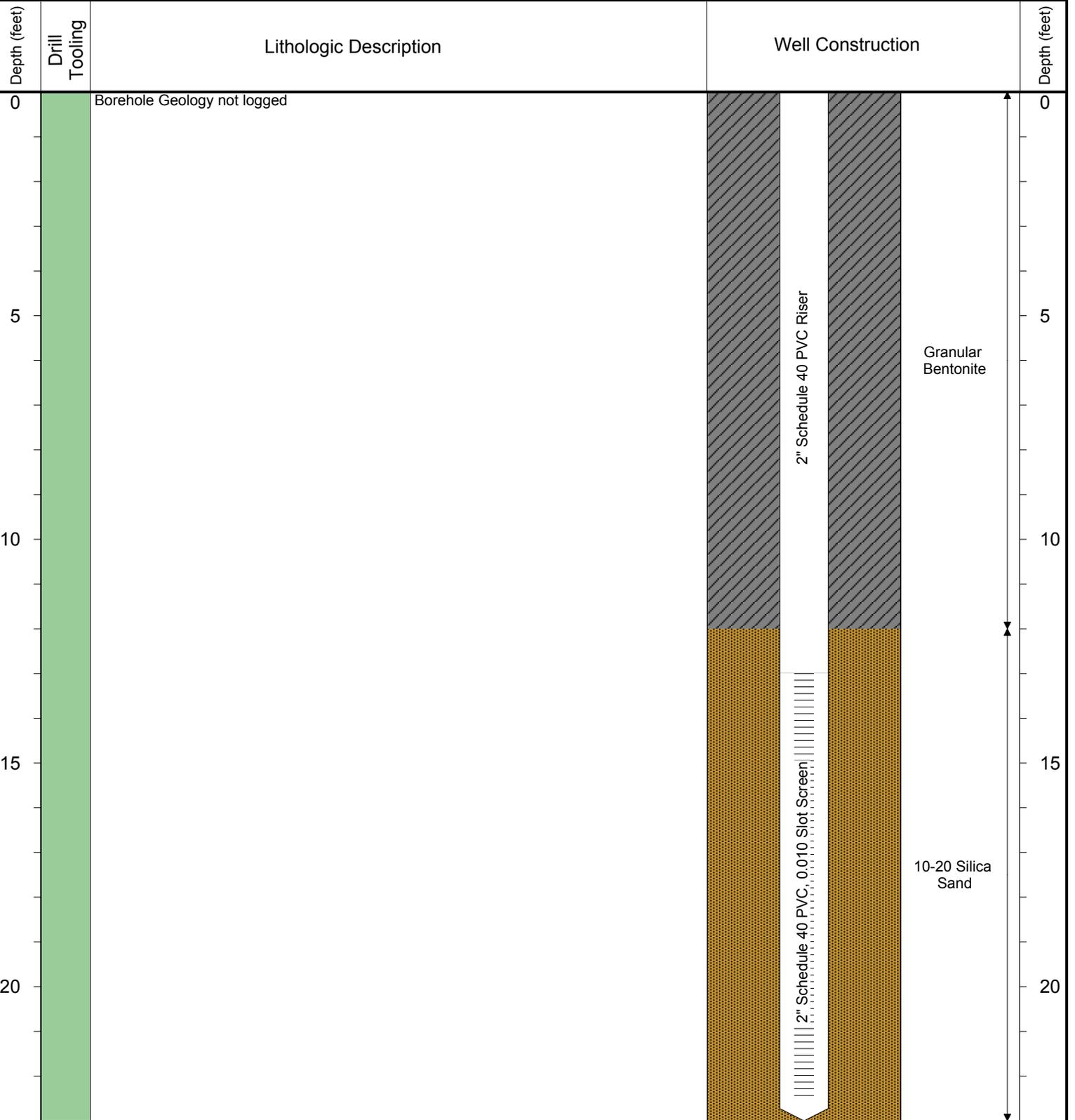
LOCATION: Weld County, Colorado

NORTHING (CO STATE PLANE): 1091022.49

EASTING (CO STATE PLANE): 3253137.05

CASING ELEVATION (FT. AMSL): 5979.915

GROUND ELEVATION (FT. AMSL): 5980.095



Drilling / Sample Method:

- Macro-Core
- Expendable Well Tip
- Perforated Injection Tool
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP

LOGGED BY: Brandon LeVasseur

PROJECT MANAGER: Robert Cornez

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Direct Push

DRILL BIT SIZE (INCHES): 2 3/8"

DATE STARTED - COMPLETED: 8/3/15

TOTAL WELL DEPTH (FT. BGS): 23

DEPTH TO WATER (FT. BGS): 22.6

Pipeline 16-0000-6069-6"

BORING / WELL ID: BH04

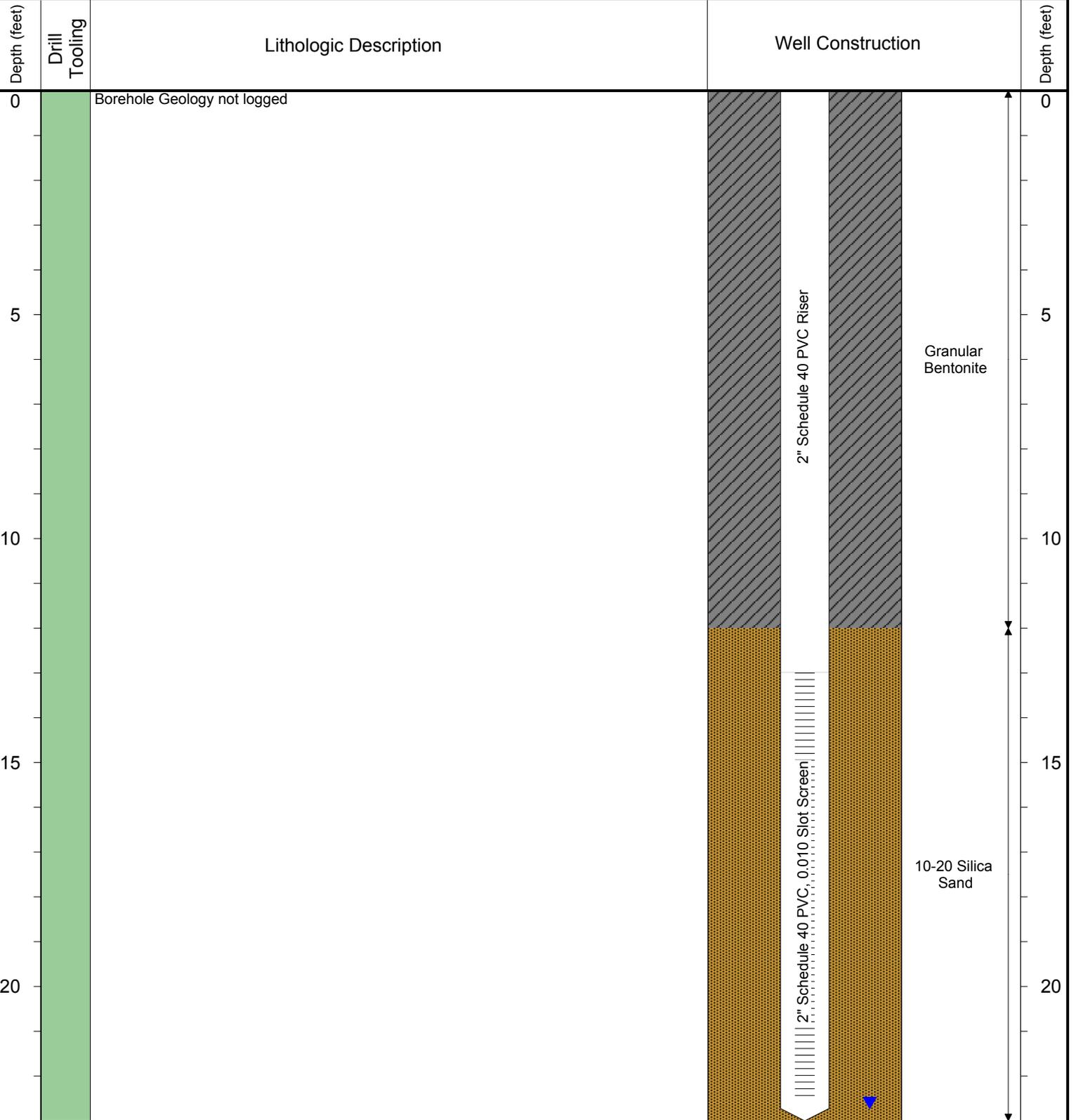
LOCATION: Weld County, Colorado

NORTHING (CO STATE PLANE): 1090958.61

EASTING (CO STATE PLANE): 3253188.17

CASING ELEVATION (FT. AMSL): 5981.475

GROUND ELEVATION (FT. AMSL): 5981.635



Drilling / Sample Method:

- Macro-Core
- Expendable Well Tip
- Perforated Injection Tool
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

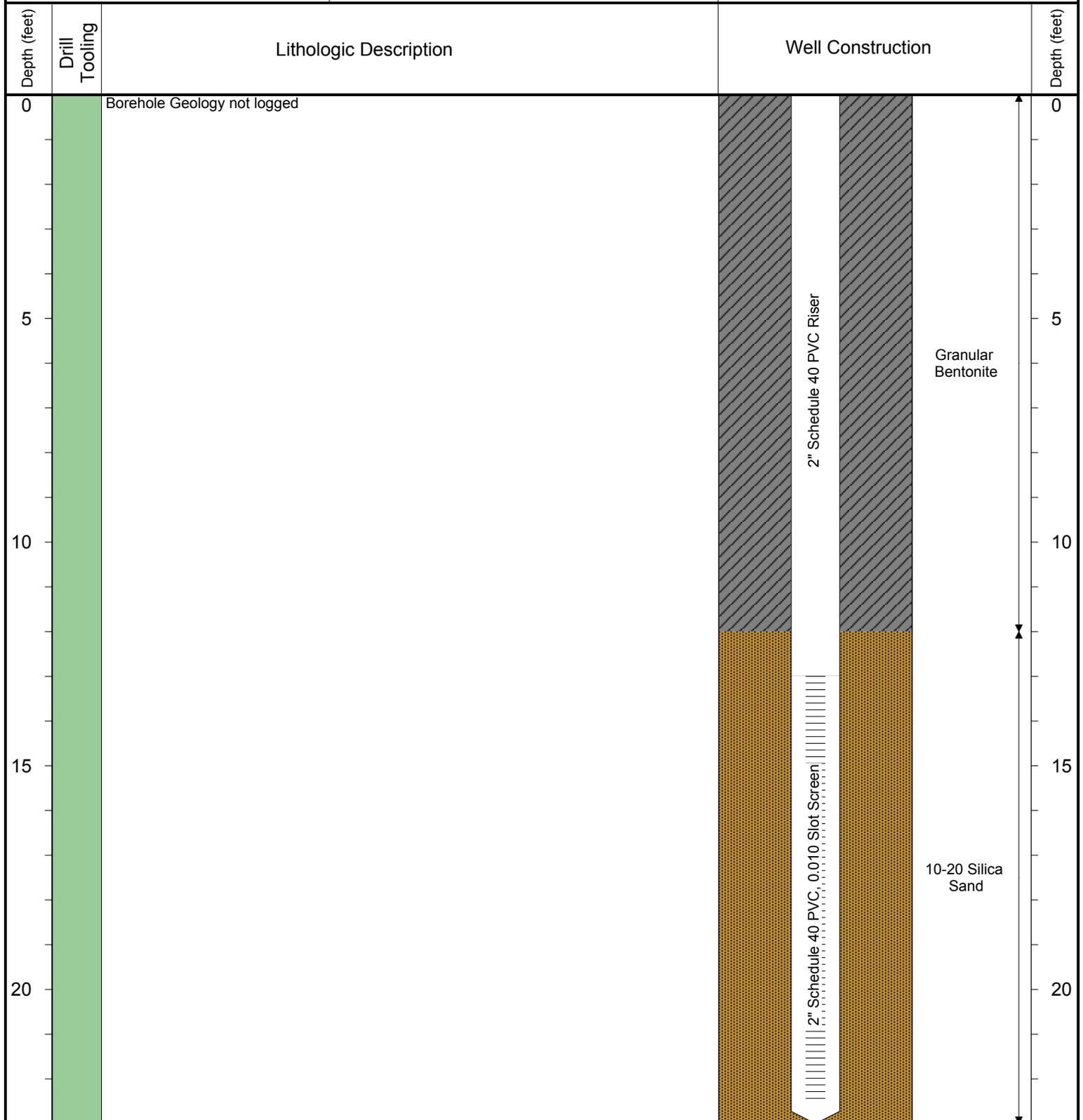
- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 8/3/15
 TOTAL WELL DEPTH (FT. BGS): 23
 DEPTH TO WATER (FT. BGS): Dry

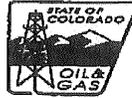
Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH05
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1090966.53
 EASTING (CO STATE PLANE): 3253107.51
 CASING ELEVATION (FT. AMSL): 5980.685
 GROUND ELEVATION (FT. AMSL): 5980.685



Drilling / Sample Method:
 Macro-Core (Green square)
 Expendable Well Tip (Dark Green square)
 Perforated Injection Tool (Yellow square)
 HydroPunch Groundwater Sampler (Blue square)

Laboratory Sample Types:
 Geotechnical Lab (Purple square)
 Analytical Chemistry Lab (Yellow square)
 Geotechnical & Analytical Chemistry Lab (Blue/Yellow diagonal square)

State of Colorado
Oil and Gas Conservation Commission



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax 894-2109

FOR OGCC USE ONLY

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

OGCC Employee:

Spill Complaint
 Inspection NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

Spill or Release Plug & Abandon Central Facility Closure Site/Facility Closure Other (describe): _____

GENERAL INFORMATION

OGCC Operator Number: 47121 Name of Operator: <u>Kerr-McGee Gathering LLC</u> Address: <u>P.O. Box 173779</u> City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>		Contact Name and Telephone Name: <u>Charles Chase</u> No: <u>970-336-3500</u> Fax: <u>970-336-3656</u>	
API/Facility No: _____ Facility Name: <u>Pipeline 16-0000-6069-6"</u> Well Name: _____		County: <u>Arapahoe</u> Facility Number: _____ Well Number: _____	
Location (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWNW S31 T5S R64W</u> Latitude: <u>39.579580</u> Longitude: <u>-104.601929</u>			

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Oil

Site Conditions: Is location within a sensitive area (according to Rule 901e)? Y N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-Crop Land

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sandy Clay

Potential receptors (water wells within 1/4 mi, surface waters, etc.): The nearest water well is located approximately 1255' northwest of the release area.

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>124' (E-W) x 20' (N-S) x 13.5' bgs</u>	<u>Excavation, drilling, soil sampling, and laboratory analysis</u>
<input type="checkbox"/> Vegetation	_____	_____
<input checked="" type="checkbox"/> Groundwater	<u>See attached data</u>	<u>Groundwater sampling and laboratory analysis</u>
<input type="checkbox"/> Surface water	_____	_____

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

On July 16, 2015, a line failure was discovered on the 16-0000-6069-6" pipeline. The pipeline was isolated, blown down, and excavation activities commenced. Groundwater was encountered in the excavation at approximately 13.5 feet below ground surface (bgs). An Initial Form 19 was submitted to the COGCC on July 18, 2015, and a Supplemental Form 19 was submitted on July 24, 2015. The COGCC has issued Spill Tracking number 442569 for this release.

Describe how source is to be removed:

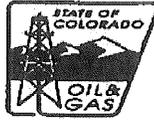
On July 16, 2015, excavation activities commenced and approximately 960 cubic yards of impacted material were removed and transported to the Tower Landfill in Commerce City, Colorado for disposal. Excavation activities were guided in the field using a photoionization detector (PID) to measure volatile organic compound (VOC) concentrations in soil. Soil samples were collected from the sidewalls of the final extent of the excavation area at approximately 12 feet bgs. Soil samples were submitted to Origins Laboratory in Denver, Colorado for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbons (TPH) - gasoline range organics (GRO) by USEPA Method 8260, TPH - diesel range organics and oil range organics (DRO and ORO) by USEPA Method 8015. Laboratory results indicated that constituent concentrations in the soil samples collected from the final lateral extent of the excavation area were below the applicable COGCC Table 910-1 standards. Soils were excavated into the phreatic zone, where applicable, to address potential hydrocarbon impacts that may have been present below the current groundwater table due to seasonal fluctuations. Groundwater was encountered in the northwest portion of the excavation at approximately 13.5 feet bgs. A groundwater sample (GW01) was collected and submitted for laboratory analysis of BTEX. Analytical results received on July 21, 2015, indicated that benzene concentrations in sample GW01 were above the applicable COGCC Table 910-1 groundwater standards. Approximately one barrel of impacted groundwater was removed from the excavation via hydroexcavator and transported to the Tower Landfill in Commerce City, Colorado for disposal. A second groundwater sample (GW02) was subsequently collected from the excavation area and submitted for laboratory analysis of BTEX. Analytical results received on July 23, 2015, indicated that the benzene concentration in sample GW02 remained above applicable COGCC Table 910-1 groundwater standards. Soil analytical results are summarized in Table 1 and groundwater analytical results are summarized in Table 2. Soil and excavation groundwater sample locations are illustrated on Figure 1 and laboratory analytical reports are included as Attachment A.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Impacted soil and groundwater slurry were excavated and transported to the Tower Landfill in Commerce City, Colorado for disposal. Prior to backfilling the excavation, 105 pounds of activated carbon were added to the groundwater table to mitigate remaining hydrocarbon impacts. Additional proposed groundwater remediation measures are described on the following page.

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado (303) 894-2100 Fax 894-2109



Tracking Number: Name of Operator: OGCC Operator No: Received Date: Well Name & No: Facility Name & No.:

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.): Between July 29, and August 3, 2015, five temporary groundwater monitoring/remediation wells (BH01-BH05) were installed to further assess the extent of groundwater impacts...

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required. The excavation has been backfilled with clean soil and graded to match the adjacent topography.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing. Is further site investigation required? [X] Y [] N If yes, describe: Data indicate that impacted soil has been delineated and removed from the site.

Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.): Impacted soil and groundwater slurry were transported to the Tower Landfill in Commerce City, Colorado.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 7/16/2015 Date Site Investigation Completed: TBD Remediation Plan Submitted: Remediation Start Date: 7/16/2015 Anticipated Completion Date: 3/1/2017 Actual Completion Date:

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Charles Chase

Signed: [Signature] Title: Staff HSE Representative Date: 9/29/15

OGCC Approved: Title: Date:

FIGURES



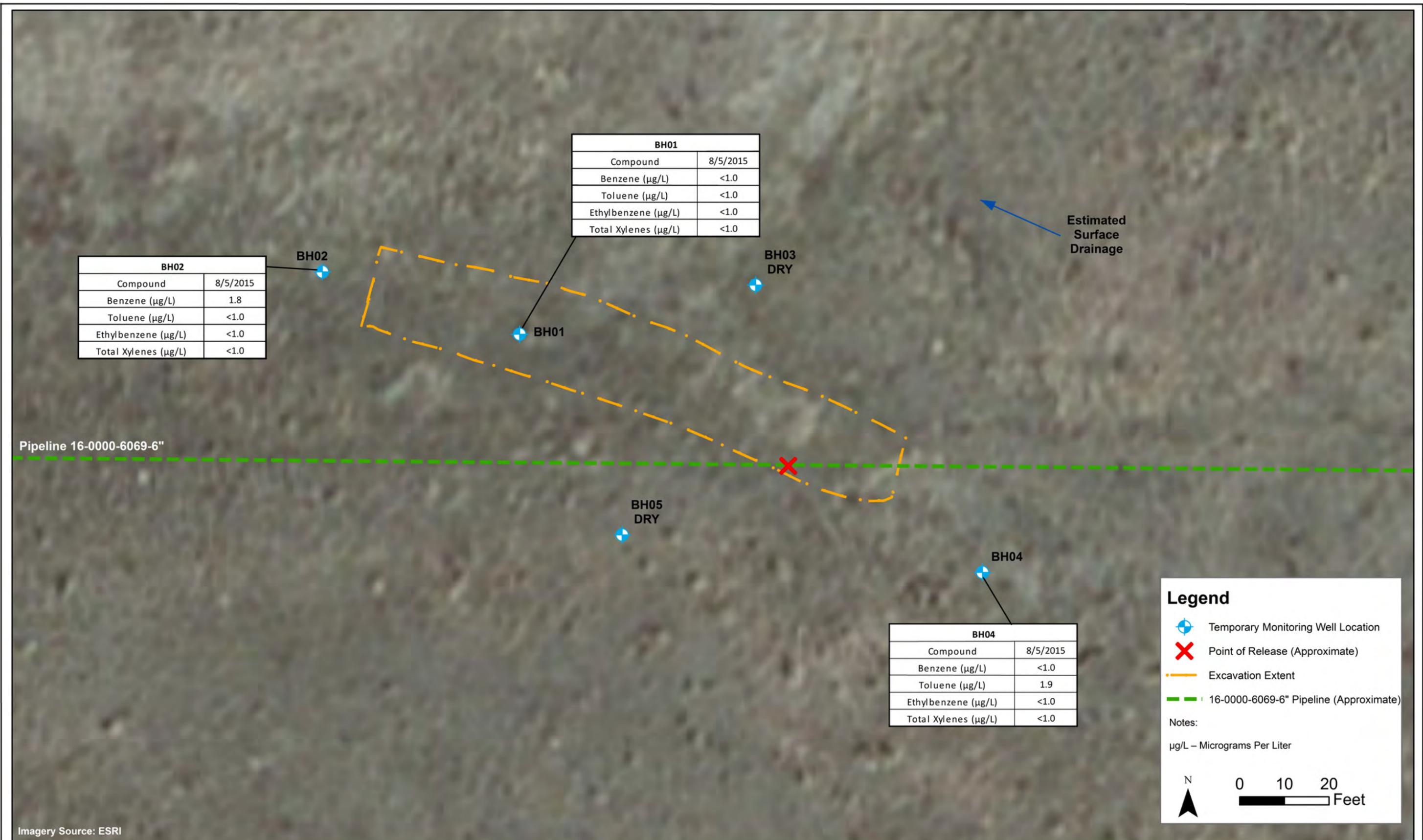
DATE: 9/17/2015
 DESIGNED BY: C. Wasko
 DRAWN BY: R. Bruner



Kerr-McGee Gathering, LLC
Pipeline 16-0000-6069-6"
 NWNW, Section 31, Township 5 South, Range 64 West
 Weld County, Colorado

Site and Sample Location
 Map

FIGURE
1



DATE:	September 2015
DESIGNED BY:	C. Wasko
DRAWN BY:	D. Arnold



Kerr-McGee Gathering, LLC
Pipeline 16-0000-6069-6"
NWNW S31 T5S R64W
Arapahoe County, CO

Groundwater Analytical
Results
Map

Figure
2



DATE:	August 2015
DESIGNED BY:	C. Wasko
DRAWN BY:	D. Arnold



TASMAN
GEOSCIENCES
Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

Kerr-McGee Gathering, LLC
Pipeline 16-0000-6069-6"
NWNW S31 T5S R64W
Arapahoe County, CO

Groundwater Elevation
Map
(August 5, 2015)

Figure
3

**ANALYTICAL
TABLES**

TABLE 1
PIPELINE 16-0000-6069-6"
SOIL SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE GATHERING, LLC

Sample ID	Date Sampled	Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TVPH - GRO (mg/kg)	TEPH - DRO (mg/kg)	TEPH - ORO (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	500		
N01 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
N02 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
N03 @ 12'	7/20/2015	12	0.013	<0.002	<0.002	0.023	<0.200	<50	<200
N04 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
N05 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
W01 @ 12'	7/20/2015	12	0.072	0.058	<0.002	0.020	0.229	<50	<200
E01 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S01 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S02 @ 12'	7/20/2015	12	0.002	0.002	<0.002	<0.002	<0.200	<50	<200
S03 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S04 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S05 @ 12'	7/20/2015	12	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B01 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B02 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B03 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
B04 @ 13'	7/20/2015	13	0.011	<0.002	<0.002	<0.002	<0.200	<50	<200
B05 @ 13'	7/20/2015	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TVPH - GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH - ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram.

bgs = Below ground surface.

BOLD = Analytical result is in exceedance of COGCC Table 910-1 soil standards.

TABLE 2
PIPELINE 16-0000-6069-6"
GROUNDWATER SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE GATHERING, LLC

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth To Water (ft bgs)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
GW01	7/20/2015	227	186	<4.0	100	~13.5
GW02	7/22/2015	150	206	3.1	92.1	~13.5
BH01	8/5/2015	<1.0	<1.0	<1.0	<1.0	11.47
BH02	8/5/2015	1.8	<1.0	<1.0	<1.0	8.22
BH03	8/5/2015					DRY
BH04	8/5/2015	<1.0	1.9	<1.0	<1.0	22.60
BH05	8/5/2015					DRY

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

(<) = Analytical result is less than the indicated laboratory reporting limit.

BOLD= Analytical result is in exceedance of COGCC groundwater standards.

**ATTACHMENT A
LABORATORY
ANALYTICAL REPORTS**

July 21, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-0000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-0000-6069-6 received by Origins Laboratory, Inc. July 20, 2015. This project is associated with Origins project number X507279-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@12	X507279-01	Soil	July 20, 2015 11:40	07/20/2015 17:00
N02@12	X507279-02	Soil	July 20, 2015 11:42	07/20/2015 17:00
N03@12	X507279-03	Soil	July 20, 2015 11:44	07/20/2015 17:00
N04@12	X507279-04	Soil	July 20, 2015 11:46	07/20/2015 17:00
N05@12	X507279-05	Soil	July 20, 2015 11:48	07/20/2015 17:00
W01@12	X507279-06	Soil	July 20, 2015 11:50	07/20/2015 17:00
E01@12	X507279-07	Soil	July 20, 2015 11:52	07/20/2015 17:00
S01@12	X507279-08	Soil	July 20, 2015 11:54	07/20/2015 17:00
S02@12	X507279-09	Soil	July 20, 2015 11:56	07/20/2015 17:00
S03@12	X507279-10	Soil	July 20, 2015 11:58	07/20/2015 17:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S04@12	X507279-11	Soil	July 20, 2015 12:00	07/20/2015 17:00
S05@12	X507279-12	Soil	July 20, 2015 12:02	07/20/2015 17:00
B01@13	X507279-13	Soil	July 20, 2015 12:04	07/20/2015 17:00
B02@13	X507279-14	Soil	July 20, 2015 12:06	07/20/2015 17:00
B03@13	X507279-15	Soil	July 20, 2015 12:08	07/20/2015 17:00
B04@13	X507279-16	Soil	July 20, 2015 12:10	07/20/2015 17:00
B05@13	X507279-17	Soil	July 20, 2015 12:12	07/20/2015 17:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

page 2 of 2

X50729

ORIGINS

Client: APC - midstream / Tasman
 address: C Wasko
 Project Name: Pipeline 16-0000-6069-6
 Project Number: Elliot Dillar-Karzon
 Telephone Number: 720 409 879
 Email Address: cwasko@tasman-gas.com

1725 Elf Place | Denver CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	Pres. wt. v				Air Sum. #	Other	Analysis	All Samples Labeled
			Unpreserved	HCl	HNO ₃	Off				
S04@12	07/24/15	1200	X					IS S O B T I O S	Empty and watered Please refer to project Sample instructions as pipeline 16-0000-6069	
S05@12		1202								
B01@13		1204								
B02@13		1206								
B03@13		1208								
B04@13	3 rd 7/20/15	1700								
B05@13		1712								

Relinquished By:	Date: 07/20/15	Time: 17:00	Received By:	Date: 7.20.15	Time: 1700
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Turnaround Time:
 Same Day 2-Hr
 48 Hr 72 Hr

Date Result Requested: 11 |

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 1507279

Client: Tasman Geosciences

Client Project ID: KMG-Pipeline 16-0000-6069-6

Checklist Completed by: Joe Henderson

Shipped Via: Pickup
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/20/15 18:14

Airbill #: _____

Matrix(s) Received: (Check all that apply): Soil/Solid _____ Water _____ Other: _____

Cooler Number/Temperature: 1 / 4.1 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			SH 7/20/15
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO3, HCL, H2SO4) / (pH > 10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			X	

Additional Comments (if any):
No sample times present on COC. Contacted sampler (Elliot Dillon) to confirm times via phone call on 7/20/15 at 1740

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by: [Signature] (Project Manager) Date/Time Reviewed: 7/21/15

Origins Laboratory, Inc.

Joe Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N01@12
7/20/2015 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 102 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.4 % 70-130 " " "

Surrogate: Toluene-d8 96.2 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.5 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N02@12
7/20/2015 11:42:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 98.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.5 % 70-130 " " "

Surrogate: Toluene-d8 97.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N03@12
7/20/2015 11:44:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 109 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	0.013	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	0.023	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.9 % 70-130 " " "
Surrogate: Toluene-d8 97.8 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N04@12
7/20/2015 11:46:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 96.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 96.4 % 70-130 " " "

Surrogate: Toluene-d8 96.0 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.5 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

N05@12
7/20/2015 11:48:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 92.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 97.0 % 70-130 " " "

Surrogate: Toluene-d8 97.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

W01@12
7/20/2015 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 103 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	0.229	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	0.072	0.002	"	"	"	"	"	
Toluene	0.058	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	0.020	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 92.3 % 70-130 " " "

Surrogate: Toluene-d8 97.5 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

E01@12
7/20/2015 11:52:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-07 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 84.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.2 % 70-130 " " "

Surrogate: Toluene-d8 97.1 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S01@12
7/20/2015 11:54:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-08 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 99.6 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.6 % 70-130 " " "

Surrogate: Toluene-d8 95.7 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.6 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S02@12
7/20/2015 11:56:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-09 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 95.0 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	0.002	0.002	"	"	"	"	"	
Toluene	0.002	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.8 % 70-130 " " "
Surrogate: Toluene-d8 96.3 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S03@12
7/20/2015 11:58:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-10 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 92.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.7 % 70-130 " " "

Surrogate: Toluene-d8 96.6 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S04@12
7/20/2015 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-11 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/20/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 88.4 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.050	"	"	"	"	"	
Toluene	ND	0.050	"	"	"	"	"	
Ethylbenzene	ND	0.050	"	"	"	"	"	
Xylenes, total	ND	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 88.5 % 70-130 " " "

Surrogate: Toluene-d8 99.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.1 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

S05@12
7/20/2015 12:02:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-12 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 97.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/20/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 96.1 % 70-130 " " "

Surrogate: Toluene-d8 96.8 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B01@13

7/20/2015 12:04:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-13 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	
<i>Surrogate: o-Terphenyl</i>	97.9 %	59-131			"	"	"	

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	92.6 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	97.4 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	102 %	70-130			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B02@13

7/20/2015 12:06:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-14 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 94.6 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.0 % 70-130 " " "

Surrogate: Toluene-d8 96.6 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B03@13

7/20/2015 12:08:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-15 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 89.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 93.6 % 70-130 " " "

Surrogate: Toluene-d8 96.8 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B04@13

7/20/2015 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-16 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 99.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	0.011	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 95.2 % 70-130 " " "

Surrogate: Toluene-d8 96.9 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

B05@13

7/20/2015 12:12:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507279-17 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G20012	07/20/2015	07/21/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 83.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G20013	07/20/2015	07/21/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "

Surrogate: Toluene-d8 95.3 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.2 % 70-130 " " "

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Blank (5G20013-BLK1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	59.7		ug/kg	62.5		95.6	70-130			
Surrogate: Toluene-d8	60.1		"	62.5		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	63.5		"	62.5		102	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Blank (5G20013-BLK2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	68.1		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	62.5		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63.2		"	62.5		101	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

LCS (5G20013-BS1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	0.087	0.002	mg/kg	0.100		87.3	77.1-124			
Toluene	0.085	0.002	"	0.100		85.5	74.5-128			
Ethylbenzene	0.083	0.002	"	0.100		83.5	66.4-127			
m,p-Xylene	0.167	0.004	"	0.200		83.4	76.6-124			
o-Xylene	0.087	0.002	"	0.100		87.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	55.4		ug/kg	62.5		88.7	70-130			
Surrogate: Toluene-d8	61.3		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	62.2		"	62.5		99.5	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

LCS (5G20013-BS2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	0.099	0.002	mg/kg	0.100		99.0	77.1-124			
Toluene	0.101	0.002	"	0.100		101	74.5-128			
Ethylbenzene	0.100	0.002	"	0.100		100	66.4-127			
m,p-Xylene	0.202	0.004	"	0.200		101	76.6-124			
o-Xylene	0.102	0.002	"	0.100		102	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67.7		ug/kg	62.5		108	70-130			
Surrogate: Toluene-d8	64.0		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	61.9		"	62.5		99.0	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike (5G20013-MS1)	Source: X507279-01			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.089	0.002	mg/kg	0.100	ND	88.8	71.8-126			
Toluene	0.088	0.002	"	0.100	ND	87.5	65.1-130			
Ethylbenzene	0.089	0.002	"	0.100	ND	88.7	62.2-130			
m,p-Xylene	0.176	0.004	"	0.200	ND	88.0	46.5-137			
o-Xylene	0.091	0.002	"	0.100	ND	91.4	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	53.9		ug/kg	62.5		86.3	70-130			
Surrogate: Toluene-d8	61.6		"	62.5		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	62.6		"	62.5		100	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike (5G20013-MS2)	Source: X507279-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.085	0.002	mg/kg	0.100	ND	84.8	71.8-126			
Toluene	0.084	0.002	"	0.100	ND	84.2	65.1-130			
Ethylbenzene	0.086	0.002	"	0.100	ND	86.4	62.2-130			
m,p-Xylene	0.170	0.004	"	0.200	ND	85.2	46.5-137			
o-Xylene	0.090	0.002	"	0.100	ND	89.9	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	54.4		ug/kg	62.5		87.0	70-130			
Surrogate: Toluene-d8	61.8		"	62.5		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	63.5		"	62.5		102	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike Dup (5G20013-MSD1)	Source: X507279-01			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.088	0.002	mg/kg	0.100	ND	87.6	71.8-126	1.34	11.3	
Toluene	0.087	0.002	"	0.100	ND	86.9	65.1-130	0.757	15.4	
Ethylbenzene	0.085	0.002	"	0.100	ND	84.8	62.2-130	4.57	19.6	
m,p-Xylene	0.171	0.004	"	0.200	ND	85.3	46.5-137	3.13	19.2	
o-Xylene	0.088	0.002	"	0.100	ND	88.3	54.2-134	3.45	17.9	
Surrogate: 1,2-Dichloroethane-d4	54.5		ug/kg	62.5		87.2	70-130			
Surrogate: Toluene-d8	61.9		"	62.5		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	61.8		"	62.5		98.9	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20013 - EPA 5030 (soil)

Matrix Spike Dup (5G20013-MSD2)	Source: X507279-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	0.085	0.002	mg/kg	0.100	ND	84.8	71.8-126	0.00	11.3	
Toluene	0.082	0.002	"	0.100	ND	81.8	65.1-130	2.87	15.4	
Ethylbenzene	0.083	0.002	"	0.100	ND	82.7	62.2-130	4.47	19.6	
m,p-Xylene	0.162	0.004	"	0.200	ND	80.8	46.5-137	5.23	19.2	
o-Xylene	0.086	0.002	"	0.100	ND	86.3	54.2-134	4.06	17.9	
Surrogate: 1,2-Dichloroethane-d4	55.0		ug/kg	62.5		87.9	70-130			
Surrogate: Toluene-d8	60.9		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	61.4		"	62.5		98.3	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20012 - EPA 3580

Blank (5G20012-BLK1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	50		"	50.0		101	59-131			

Blank (5G20012-BLK2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	49		"	50.0		97.8	59-131			

LCS (5G20012-BS1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	980	50	mg/kg	1000		97.6	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		104	58-124			
Surrogate: o-Terphenyl	48		"	50.0		96.8	59-131			

LCS (5G20012-BS2)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	930	50	mg/kg	1000		92.6	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		101	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.2	59-131			

Matrix Spike (5G20012-MS1)

Source: X507279-01

Prepared: 07/20/2015 Analyzed: 07/20/2015

Diesel (C10-C28)	950	50	mg/kg	1000	ND	94.9	53-125			
Residual Range Organics (C28-C36)	940	200	"	1000	ND	93.9	47-133			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5G20012 - EPA 3580										
Matrix Spike (5G20012-MS1)			Source: X507279-01		Prepared: 07/20/2015 Analyzed: 07/20/2015					
Surrogate: o-Terphenyl	47		mg/kg	50.0		93.7	59-131			
Matrix Spike (5G20012-MS2)			Source: X507279-02		Prepared: 07/20/2015 Analyzed: 07/20/2015					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	102	53-125			
Residual Range Organics (C28-C36)	920	200	"	1000	ND	92.1	47-133			
Surrogate: o-Terphenyl	49		"	50.0		97.9	59-131			
Matrix Spike Dup (5G20012-MSD1)			Source: X507279-01		Prepared: 07/20/2015 Analyzed: 07/20/2015					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	102	53-125	7.28	20	
Residual Range Organics (C28-C36)	960	200	"	1000	ND	95.9	47-133	2.15	20	
Surrogate: o-Terphenyl	51		"	50.0		101	59-131			
Matrix Spike Dup (5G20012-MSD2)			Source: X507279-02		Prepared: 07/20/2015 Analyzed: 07/20/2015					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	103	53-125	0.987	20	
Residual Range Organics (C28-C36)	920	200	"	1000	ND	92.3	47-133	0.242	20	
Surrogate: o-Terphenyl	50		"	50.0		100	59-131			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

July 21, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-0000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-0000-6069-6 received by Origins Laboratory, Inc. July 20, 2015. This project is associated with Origins project number X507280-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	X507280-01	Water	July 20, 2015 13:00	07/20/2015 17:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X567280

Client: Tasman Geosciences
 Client Project ID: Pipeline 16-0000-6069-9

Checklist Completed by: Joe Henderson
 Date/time completed: 7/20/15 1816

Shipped Via: Pickup
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: _____

Matrix(s) Received: (Check all that apply): _____ Soil/Solid Water _____ Other: _____

Cooler Number/Temperature: 1 / 4.1 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 5°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	X			HC1
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

[Signature]
 Reviewed by (Project Manager)

7/21/15
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

GW01
7/20/2015 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507280-01 (Water)

BTEX by EPA 8260C

Benzene	227	4.0	ug/L	4	5G20007	07/20/2015	07/20/2015	
Toluene	186	4.0	"	"	"	"	"	
Ethylbenzene	ND	4.0	"	"	"	"	"	
Xylenes, total	100	4.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	100 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	98.4 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

Blank (5G20007-BLK1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		97.5	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

LCS (5G20007-BS1)

Prepared: 07/20/2015 Analyzed: 07/20/2015

Benzene	51.0	1.0	ug/L	50.0		102	75-126			
Toluene	51.7	1.0	"	50.0		103	78.7-126			
Ethylbenzene	53.5	1.0	"	50.0		107	80-130			
m,p-Xylene	106	2.0	"	100		106	77.2-133			
o-Xylene	52.6	1.0	"	50.0		105	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.4	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.6	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.1	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

Matrix Spike (5G20007-MS1)	Source: X507226-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	53.7	1.0	ug/L	50.0	ND	107	74-130			
Toluene	53.4	1.0	"	50.0	ND	107	73-131			
Ethylbenzene	55.5	1.0	"	50.0	ND	111	76-132			
m,p-Xylene	110	2.0	"	100	ND	110	69-139			
o-Xylene	53.8	1.0	"	50.0	ND	108	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.2	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.1	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G20007 - EPA 5030B (Water)

Matrix Spike Dup (5G20007-MSD1)	Source: X507226-02			Prepared: 07/20/2015 Analyzed: 07/20/2015						
Benzene	55.5	1.0	ug/L	50.0	ND	111	74-130	3.28	20	
Toluene	55.0	1.0	"	50.0	ND	110	73-131	2.92	20	
Ethylbenzene	56.2	1.0	"	50.0	ND	112	76-132	1.20	20	
m,p-Xylene	111	2.0	"	100	ND	111	69-139	0.843	20	
o-Xylene	54.8	1.0	"	50.0	ND	110	74-131	1.80	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		95.1	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		98.9	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.6	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

July 23, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-000-6069-6 received by Origins Laboratory, Inc. July 22, 2015. This project is associated with Origins project number X507312-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	X507312-01	Water	July 22, 2015 10:50	07/22/2015 17:45

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: XS07312

Client: Tasman
 Client Project ID: Pipeline 16-000-6069-6

Checklist Completed by: Jeff Smith
 Date/time completed: 7/22/15

Shipped Via: H/D
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 4.6 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jeff Smith
 Reviewed by (Project Manager)

7/22/15
 Date/Time Reviewed

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

GW02
7/22/2015 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X507312-01 (Water)

BTEX by EPA 8260C

Benzene	150	1.0	ug/L	1	5G22011	07/22/2015	07/22/2015	
Toluene	206	10.0	"	10	"	"	07/22/2015	
Ethylbenzene	3.1	1.0	"	1	"	"	07/22/2015	
Xylenes, total	92.1	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.8 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	102 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

Blank (5G22011-BLK1)

Prepared: 07/22/2015 Analyzed: 07/22/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5	96.5		87.3-113			
Surrogate: Toluene-d8	61		"	62.5	97.7		90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.4		88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

LCS (5G22011-BS1)

Prepared: 07/22/2015 Analyzed: 07/22/2015

Benzene	51.9	1.0	ug/L	50.0		104	75-126			
Toluene	50.7	1.0	"	50.0		101	78.7-126			
Ethylbenzene	51.5	1.0	"	50.0		103	80-130			
m,p-Xylene	102	2.0	"	100		102	77.2-133			
o-Xylene	52.6	1.0	"	50.0		105	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		89.9	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		98.2	90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.0	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

Matrix Spike (5G22011-MS1)	Source: X507301-01			Prepared: 07/22/2015 Analyzed: 07/22/2015						
Benzene	48.8	1.0	ug/L	50.0	ND	97.6	74-130			
Toluene	46.2	1.0	"	50.0	ND	92.5	73-131			
Ethylbenzene	46.5	1.0	"	50.0	ND	92.9	76-132			
m,p-Xylene	93.4	2.0	"	100	ND	93.4	69-139			
o-Xylene	46.7	1.0	"	50.0	ND	93.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.0	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		97.9	90.9-108			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.6	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - Pipeline 16-000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G22011 - EPA 5030B (Water)

Matrix Spike Dup (5G22011-MSD1)	Source: X507301-01			Prepared: 07/22/2015 Analyzed: 07/22/2015						
Benzene	53.6	1.0	ug/L	50.0	ND	107	74-130	9.45	20	
Toluene	53.6	1.0	"	50.0	ND	107	73-131	14.8	20	
Ethylbenzene	55.3	1.0	"	50.0	ND	111	76-132	17.3	20	
m,p-Xylene	108	2.0	"	100	ND	108	69-139	14.7	20	
o-Xylene	53.9	1.0	"	50.0	ND	108	74-131	14.5	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.8	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.8	90.9-108			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	88.6-111			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 16-000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

August 12, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Pipeline 16-0000-6069-6

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 16-0000-6069-6 received by Origins Laboratory, Inc. August 05, 2015. This project is associated with Origins project number X508052-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	X508052-01	Water	August 5, 2015 11:16	08/05/2015 16:40
BH02	X508052-02	Water	August 5, 2015 11:14	08/05/2015 16:40
BH04	X508052-03	Water	August 5, 2015 11:24	08/05/2015 16:40

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: X508052

Client: Tasman

Client Project ID: Pipeline

Checklist Completed by: Jeff Smith

Shipped Via: HD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 8/6/15

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 2.4 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X	<u>8/6/15</u> <u>JCS</u>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	X			<u>HCC</u>
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jeff Smith
 Reviewed by (Project Manager)

8/6/15
 Date/Time Reviewed

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

BH01
8/5/2015 11:16:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X508052-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H06014	08/06/2015	08/07/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	113 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.1 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

BH02
8/5/2015 11:14:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X508052-02 (Water)

BTEX by EPA 8260C

Benzene	1.8	1.0	ug/L	1	5H06014	08/06/2015	08/07/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	110 %	84-121			"	"	"	
Surrogate: Toluene-d8	96.5 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

BH04

8/5/2015 11:24:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
X508052-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H06014	08/06/2015	08/07/2015	
Toluene	1.9	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
<hr/>								
Surrogate: 1,2-Dichloroethane-d4	112 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	84-114			"	"	"	

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

Blank (5H06014-BLK1)

Prepared: 08/06/2015 Analyzed: 08/07/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5	108		84-121			
Surrogate: Toluene-d8	60		"	62.5	96.1		85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.8		84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

LCS (5H06014-BS1)

Prepared: 08/06/2015 Analyzed: 08/07/2015

Benzene	46.6	1.0	ug/L	50.0		93.2	75-126			
Toluene	44.2	1.0	"	50.0		88.5	78.7-126			
Ethylbenzene	43.5	1.0	"	50.0		87.0	80-130			
m,p-Xylene	86.1	2.0	"	100		86.1	77.2-133			
o-Xylene	44.4	1.0	"	50.0		88.7	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		103	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.1	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

Matrix Spike (5H06014-MS1)	Source: X508045-02			Prepared: 08/06/2015 Analyzed: 08/07/2015						
Benzene	51.5	1.0	ug/L	50.0	ND	103	74-130			
Toluene	50.3	1.0	"	50.0	ND	101	73-131			
Ethylbenzene	51.5	1.0	"	50.0	ND	103	76-132			
m,p-Xylene	100	2.0	"	100	ND	100	69-139			
o-Xylene	48.6	1.0	"	50.0	ND	97.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.1	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.5	84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Pipeline 16-0000-6069-6

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5H06014 - EPA 5030B (Water)

Matrix Spike Dup (5H06014-MSD1)	Source: X508045-02			Prepared: 08/06/2015 Analyzed: 08/07/2015						
Benzene	49.7	1.0	ug/L	50.0	ND	99.4	74-130	3.50	20	
Toluene	49.7	1.0	"	50.0	ND	99.4	73-131	1.14	20	
Ethylbenzene	51.0	1.0	"	50.0	ND	102	76-132	1.03	20	
m,p-Xylene	99.7	2.0	"	100	ND	99.7	69-139	0.250	20	
o-Xylene	49.1	1.0	"	50.0	ND	98.2	74-131	0.982	20	
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.8	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	84-114			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Pipeline 16-0000-6069-6

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

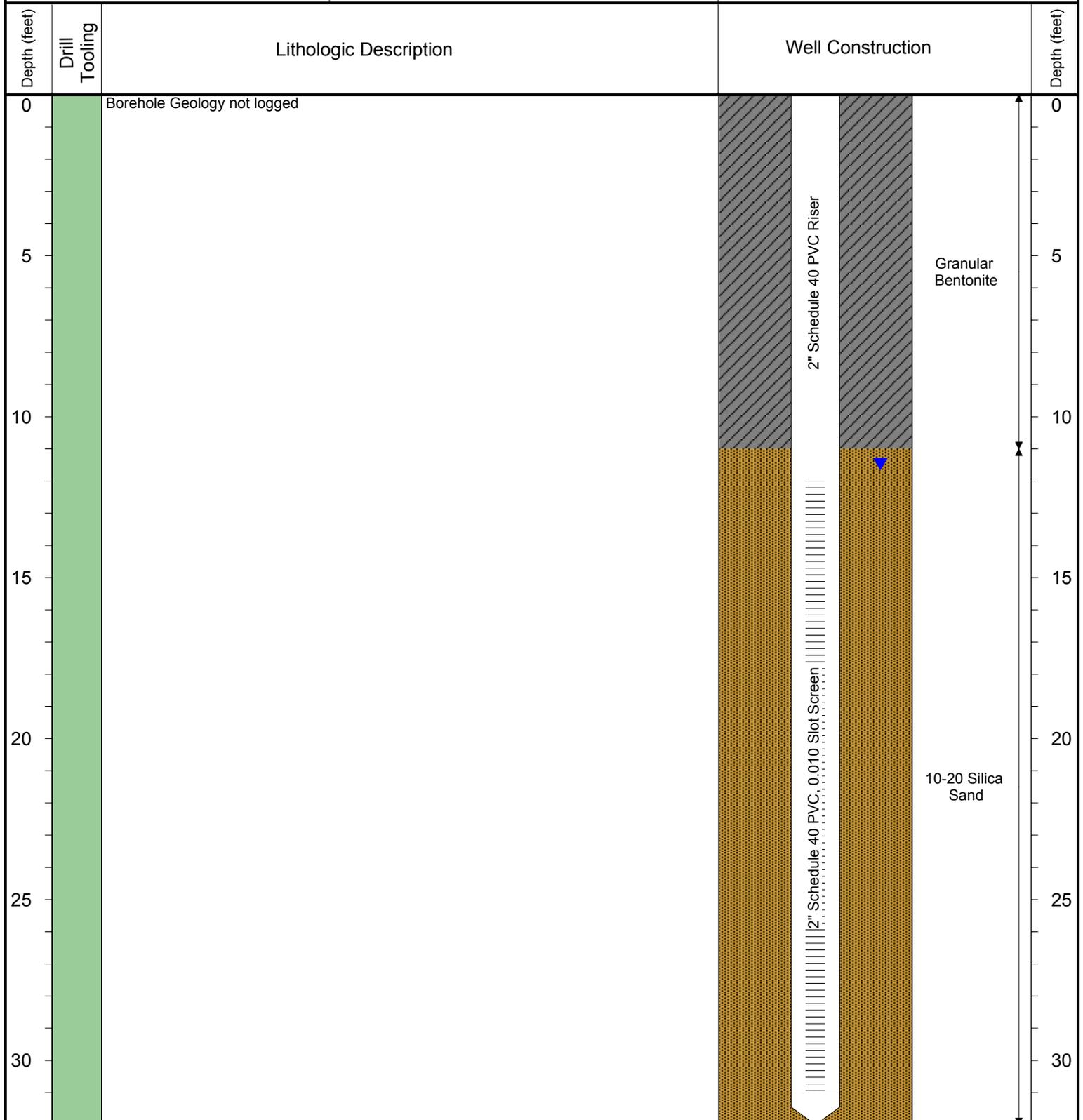
**ATTACHMENT B
WELL COMPLETION
LOGS**



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 7/29/15
 TOTAL WELL DEPTH (FT. BGS): 32
 DEPTH TO WATER (FT. BGS): 11.47 ▼

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH01
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1091011.2
 EASTING (CO STATE PLANE): 3253084.32
 CASING ELEVATION (FT. AMSL): 5979.405
 GROUND ELEVATION (FT. AMSL): 5979.495



Drilling / Sample Method:
 Macro-Core (Green square)
 Expendable Well Tip (Dark Green square)

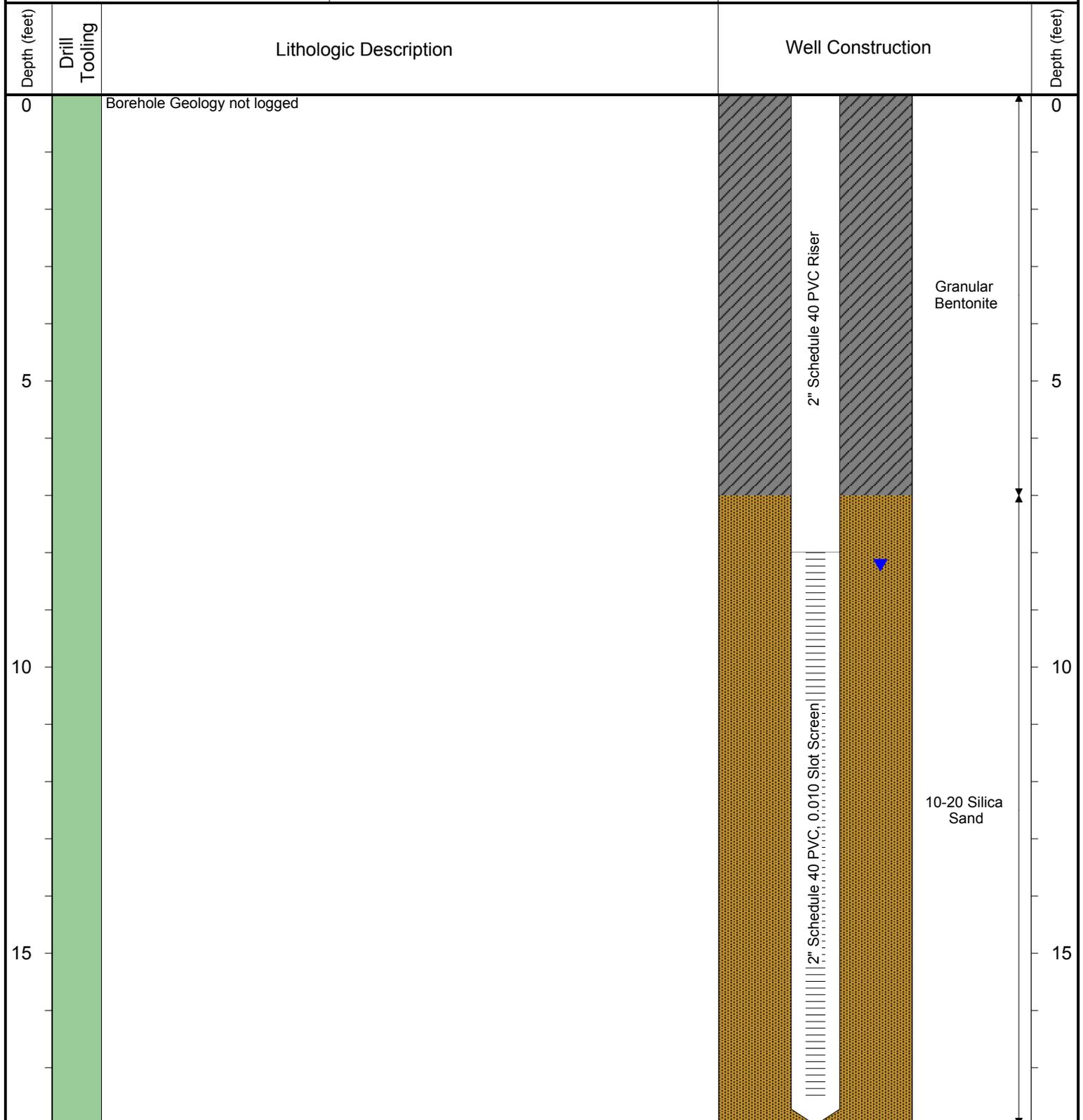
Laboratory Sample Types:
 Perforated Injection Tool (Yellow square)
 HydroPunch Groundwater Sampler (Blue square)
 Geotechnical Lab (Purple square)
 Analytical Chemistry Lab (Yellow square)
 Geotechnical & Analytical Chemistry Lab (Blue and Yellow diagonal square)



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 8/3/15
 TOTAL WELL DEPTH (FT. BGS): 18
 DEPTH TO WATER (FT. BGS): 8.22

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH02
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1091024.89
 EASTING (CO STATE PLANE): 3253040.12
 CASING ELEVATION (FT. AMSL): 5978.465
 GROUND ELEVATION (FT. AMSL): 5978.705



Drilling / Sample Method:
 Macro-Core (Green square)
 Expendable Well Tip (Dark Green square)

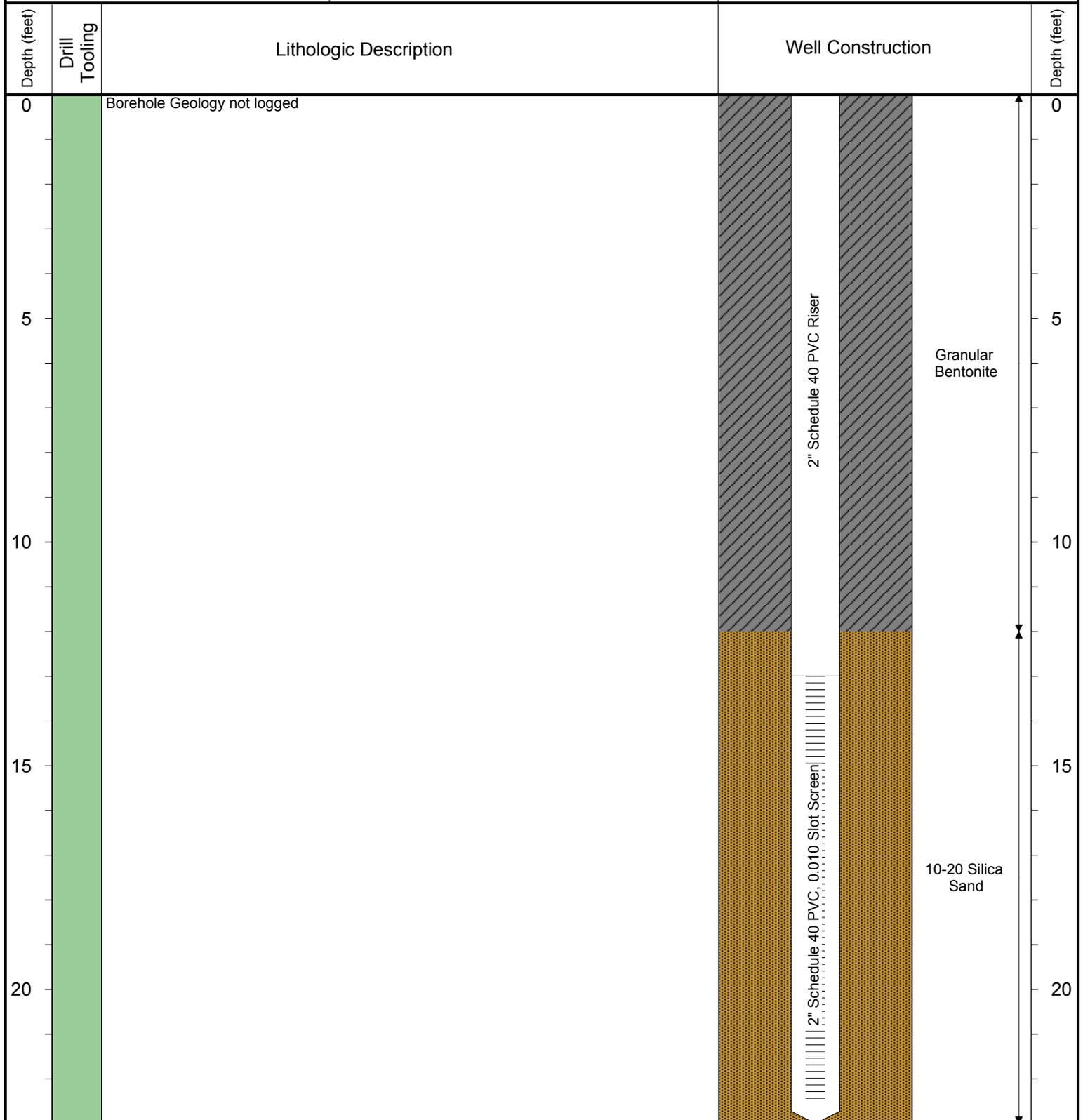
Laboratory Sample Types:
 Perforated Injection Tool (Yellow square)
 HydroPunch Groundwater Sampler (Blue square)
 Geotechnical Lab (Purple square)
 Analytical Chemistry Lab (Yellow square)
 Geotechnical & Analytical Chemistry Lab (Blue/Yellow diagonal square)



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 8/3/15
 TOTAL WELL DEPTH (FT. BGS): 23
 DEPTH TO WATER (FT. BGS): Dry

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH03
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1091022.49
 EASTING (CO STATE PLANE): 3253137.05
 CASING ELEVATION (FT. AMSL): 5979.915
 GROUND ELEVATION (FT. AMSL): 5980.095



Drilling / Sample Method:
 Macro-Core (Green square)
 Expendable Well Tip (Dark Green square)

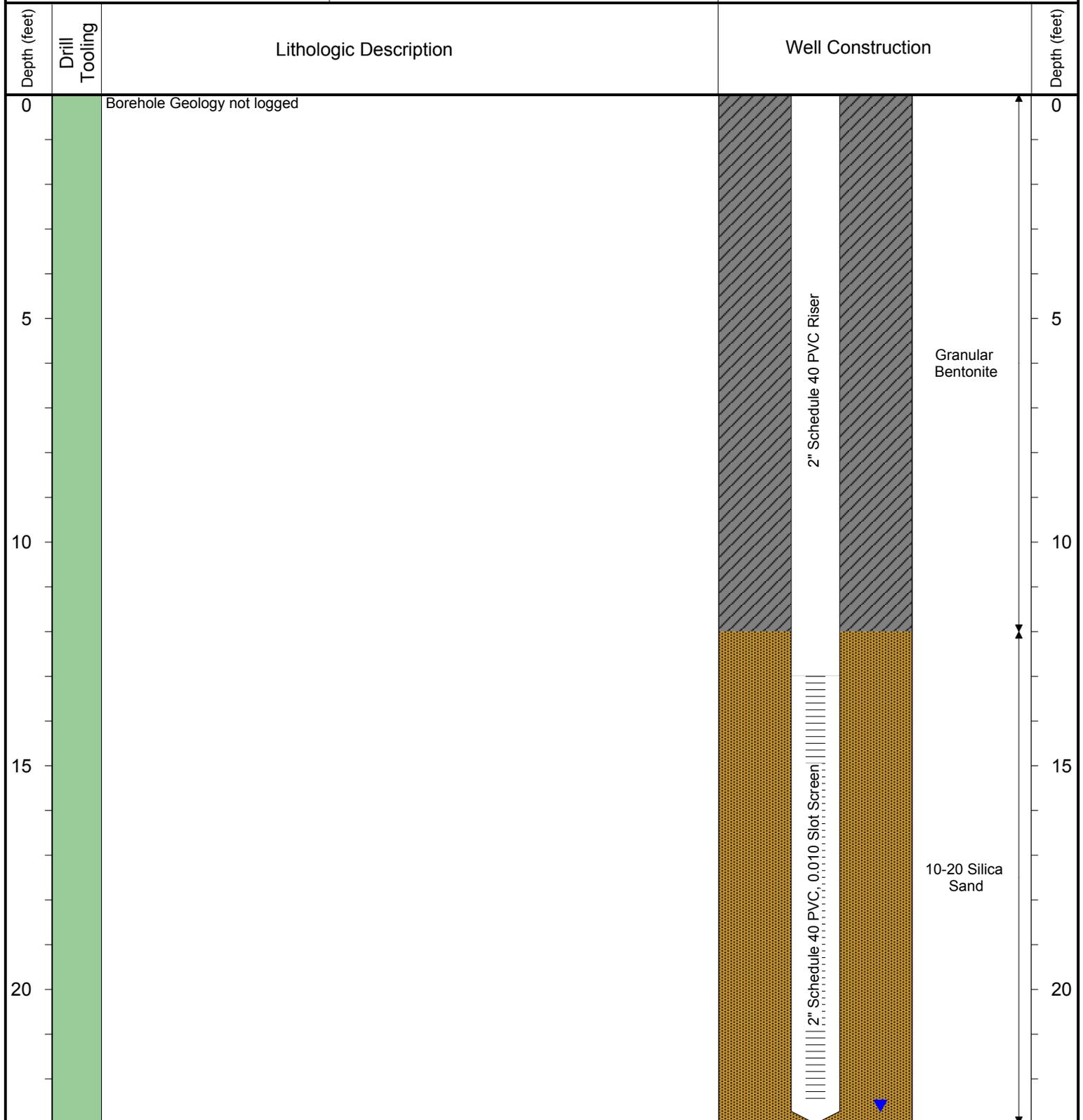
Laboratory Sample Types:
 Perforated Injection Tool (Yellow square)
 HydroPunch Groundwater Sampler (Blue square)
 Geotechnical Lab (Purple square)
 Analytical Chemistry Lab (Yellow square)
 Geotechnical & Analytical Chemistry Lab (Blue/Yellow diagonal square)



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 8/3/15
 TOTAL WELL DEPTH (FT. BGS): 23
 DEPTH TO WATER (FT. BGS): 22.6

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH04
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1090958.61
 EASTING (CO STATE PLANE): 3253188.17
 CASING ELEVATION (FT. AMSL): 5981.475
 GROUND ELEVATION (FT. AMSL): 5981.635



Drilling / Sample Method:
 Macro-Core (Green square)
 Expendable Well Tip (Dark Green square)
 Perforated Injection Tool (Yellow square)
 HydroPunch Groundwater Sampler (Blue square)

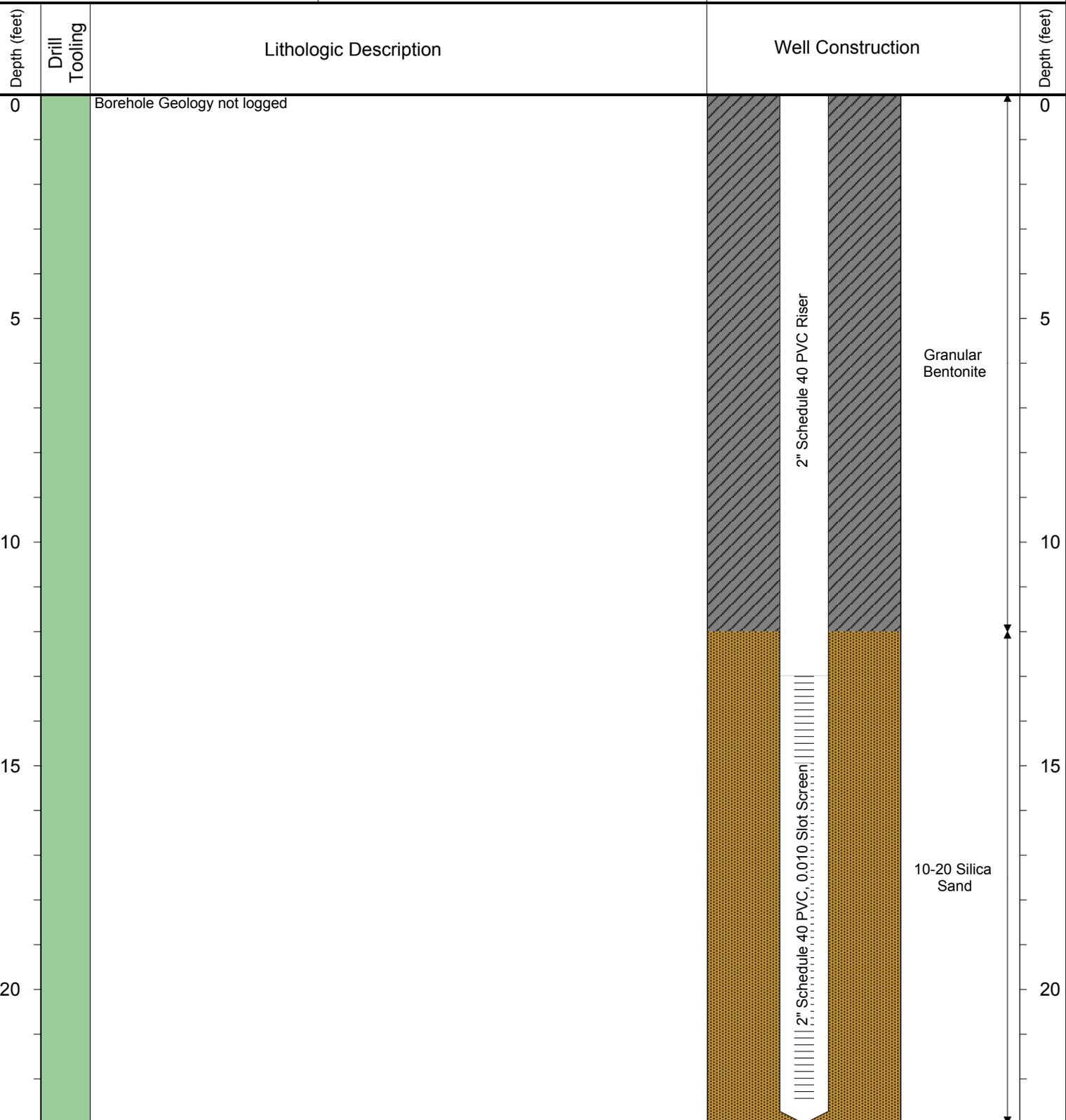
Laboratory Sample Types:
 Geotechnical Lab (Purple square)
 Analytical Chemistry Lab (Yellow square)
 Geotechnical & Analytical Chemistry Lab (Blue/Yellow diagonal square)



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brandon LeVasseur
 PROJECT MANAGER: Robert Cornez
 DRILLING CONTRACTOR: Tasman
 DRILLING EQUIPMENT: Direct Push
 DRILL BIT SIZE (INCHES): 2 3/8"
 DATE STARTED - COMPLETED: 8/3/15
 TOTAL WELL DEPTH (FT. BGS): 23
 DEPTH TO WATER (FT. BGS): Dry ▼

Pipeline 16-0000-6069-6"
 BORING / WELL ID: BH05
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 1090966.53
 EASTING (CO STATE PLANE): 3253107.51
 CASING ELEVATION (FT. AMSL): 5980.685
 GROUND ELEVATION (FT. AMSL): 5980.685



Drilling / Sample Method:

- Macro-Core
- Expendable Well Tip
- Perforated Injection Tool
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab