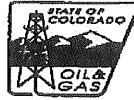


State of Colorado
Oil and Gas Conservation Commission

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

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)? <input checked="" type="checkbox"/> Y <input type="checkbox"/> 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	124' (E-W) x 20' (N-S) x 13.5' bgs	Excavation, drilling, soil sampling, and laboratory analysis
<input type="checkbox"/> Vegetation		
<input checked="" type="checkbox"/> Groundwater	See attached data	Groundwater sampling and laboratory analysis
<input type="checkbox"/> Surface water		

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document): <p>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.</p>
Describe how source is to be removed: <p>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.</p>
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.: <p>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.</p>

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. 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? ☒ 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: _____

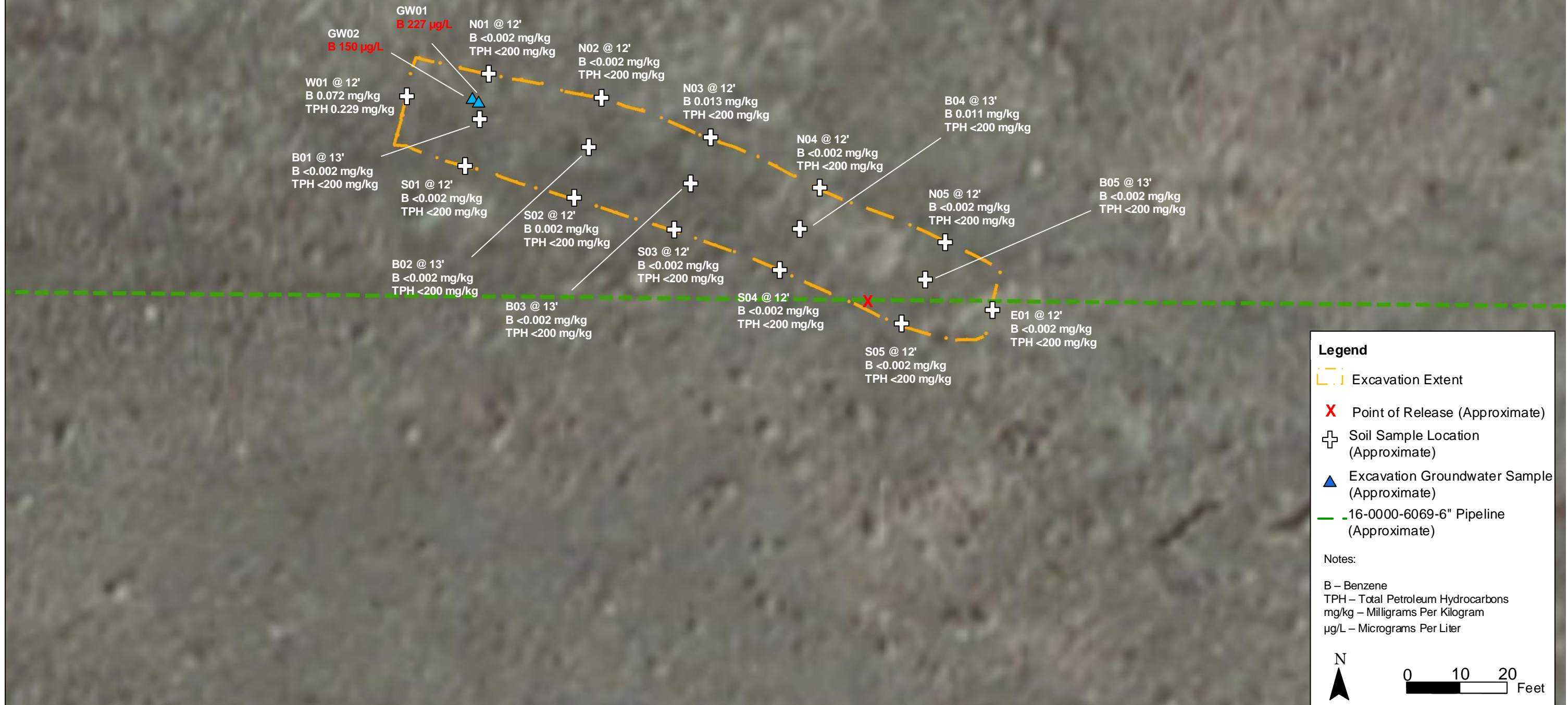
I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Charles Chase

Signed: Charles Chase Title: Staff HSE Representative Date: 9/29/15

OGCC Approved: _____ Title: _____ Date: _____

FIGURES



DATE: September 2015

DESIGNED BY: C. Wasko

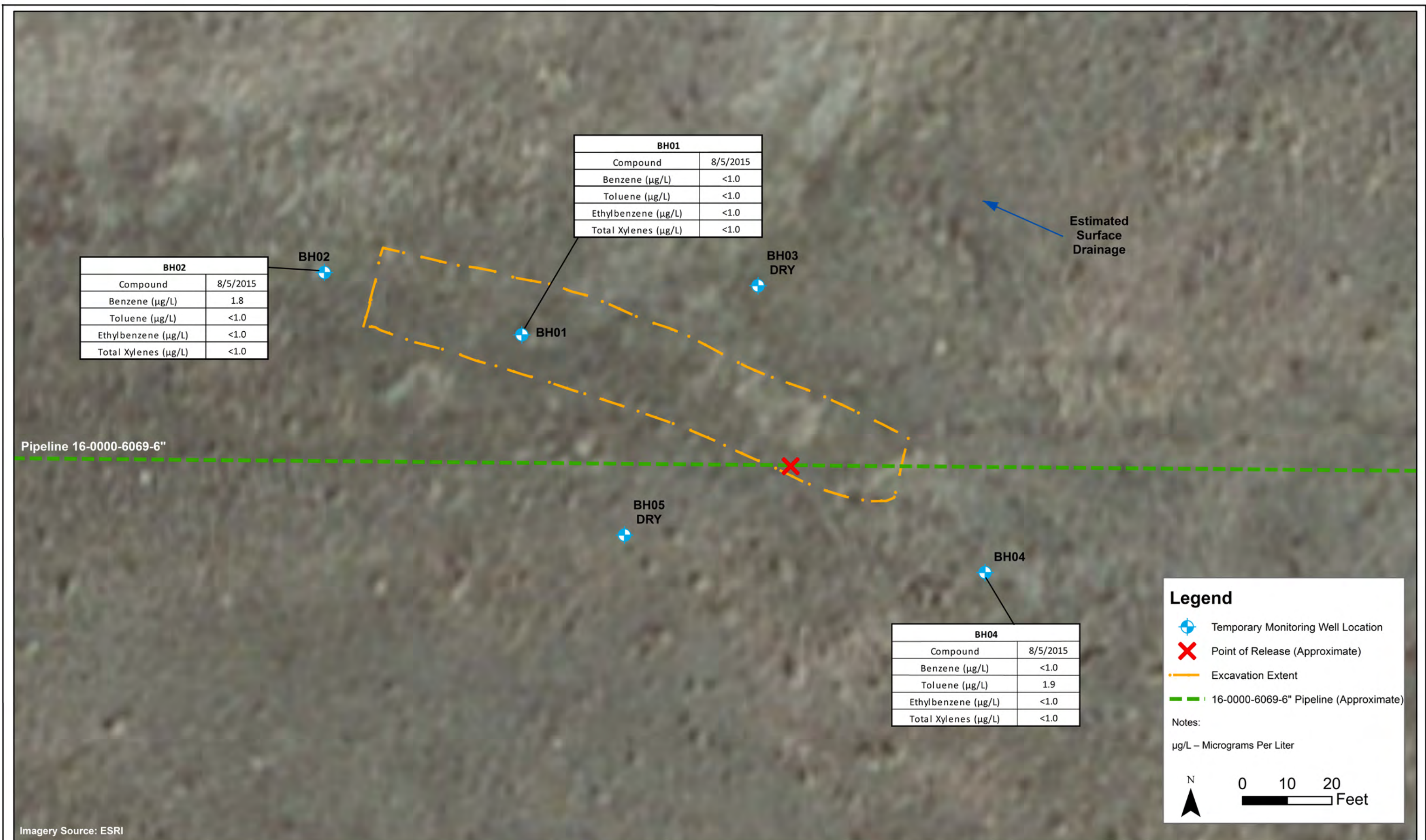
DRAWN BY: R. Bruner



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



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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

ORIGINS

X507279

page 1 of 2

Client: APC - midstream / Tasman
Address:
Telephone Number: 720 409 8791
Email Address: cwasko@tasman-geo.com

Project Manager: C Wasko
Project Name: Pipeline 16-0000-6069-6
Project Number:
Samples Collected by: Eliot Diller-Henry

Sample ID Description	Date Sampled	Time Sampled	Preservative				# of Containers	Analysis				All Samples labeled Quincy and Watershed please refer to project Sample instructions KMG Pipeline 16-0000-6069-6	
			Unpreserved	HCl	HNO ₃	Other		Groundwater	Soil	Air	Other		
N#1 @12	07/20/15	1140					1						
N#2 @12		1142					1						
N#3 @12		1144					1						
N#4 @12		1146					1						
N#5 @12		1148					1						
W#1 @12		1150					1						
E#1 @12		1152					1						
S#1 @12		1154					1						
S#2 @12		1156					1						
S#3 @12		1158					1						
Relinquished By:	Date: 07/20/15	Time: 11:00	Received By:	Date: 7.20.15	Time: 1700	Turnaround Time:		Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/>		48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>		Standards <input type="checkbox"/>	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:								

Sample times confirmed

Origins Laboratory, Inc.

Jefe 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.

Origins Laboratory, Inc.

Jose 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

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 1814

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⁾ ?	<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"/>	<input checked="" type="checkbox"/>		<u>SH 7/20/15</u>
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any): <u>No sample times present on COC. Contacted Sampler (Elliot Dillon) to confirm times via phone call on 7/20/15 at 1740</u>				

⁽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)

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

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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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.



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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
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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			"	"	"
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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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.



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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
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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.



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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
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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
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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.



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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.



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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.



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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
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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
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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.



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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.



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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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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.

Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS

X507280

page 1 of 1

Client: ALC Industries / Tamar
Address:

Project Manager: Cwasko

Project Name: Pipeline 16-0000-6069-6

Project Number:

Telephone Number: 720 409 874
Email Address: Cwasko

Samples Collected by: EDH

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Air Suspended		
Cwasko	07/20/17	13:00	43	P	P					BTEX 8260	1
											2
											3
											4
											5
											6
											7
											8
											9
											10
Relinquished By: [Signature]	Date: 07/20/17	Time: 17:00		Received By: [Signature]	Date: 7.20.15	Time: 1700	Turnaround Time: Same Day X	48 Hr	72 Hr		
Relinquished By:	Date:	Time:		Received By:	Date:	Time:					

Origins Laboratory, Inc.

Jeff Pellipini

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: 1567280

Client: Tasman Geosciences

Client Project ID: 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 1816

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⁾ ?	<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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			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.

Reviewed by (Project Manager)

7/21/15
Date/Time Reviewed

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

GW01

7/20/2015 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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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.



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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
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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.



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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
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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.



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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
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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.



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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.

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

Sample ID Description	Date Sampled	# of Containers	Preservative					Matrix				Analysis	Sample Instructions	
			Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Sample	Other				
G1002	7/22/15	3		X				X				Other	BKX 8260	1
														2
														3
														4
														5
														6
														7
														8
														9
														10
Relinquished By: <i>Butler</i>	Date: 7/22/15	Time: 1545	Received By:					Date:				Time:	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>	
Relinquished By: <i>Butler</i>	Date: 7/22/15	Time:	Received By: <i>Butler</i>					Date: 7/21/15				Time: 1745 1545	4.6	

Page 3 of 10

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 #: NA

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

Cooler Number/Temperature: 1 / 4.6 °C 1 / 1 °C 1 / 1 °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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.

Jen 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 16-000-6069-6

GW02

7/22/2015 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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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
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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
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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
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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.

Jen Pellegrini For Noelle Doyle Mathis, President



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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.

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

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page ☐ of ☐

ORIGINS LABORATORY, INC

XSC8052

Client: Tasman G10

Address:

Telephone Number: 352 262 9910

Email Address: lco@t2@tasman-glo.com

Project Manager: Bob Cornez

Project Name: Pipeline 16-0000-6069-6

Project Number:

Samples Collected By: Kate Fairsman

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix				Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other			
BH01	8/5/15	1116	3	X				X					BTEX S260	1
BH02	8/5/15	1114	3	X				X					X	2
BH04	8/5/15	1124	2	X				X					X	3
														4
														5
														6
														7
														8
														9
														10

Relinquished By: *[Signature]*

Relinquished By:

Date: 8/5/15

Date:

Time: 1545

Time:

Received By: *[Signature]*

Received By:

Date: 8/5/15

Date:

Time: 1640

Time:

Turnaround Time:

Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☒

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: **XS08052**

Client: Tasman

Client Project ID: Pipeline

Checklist Completed by: Jeff Smith

Shipped Via: HP

(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: (Describe)

Cooler Number/Temperature: 1 / 2.4 °C / °C / °C / °C

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"/>	<u>8/6/15</u> <u>TCS</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)	<input checked="" type="checkbox"/>			<u>HCL</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.

Jeff 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

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
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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
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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	"	"	"	"	"

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.



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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.



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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

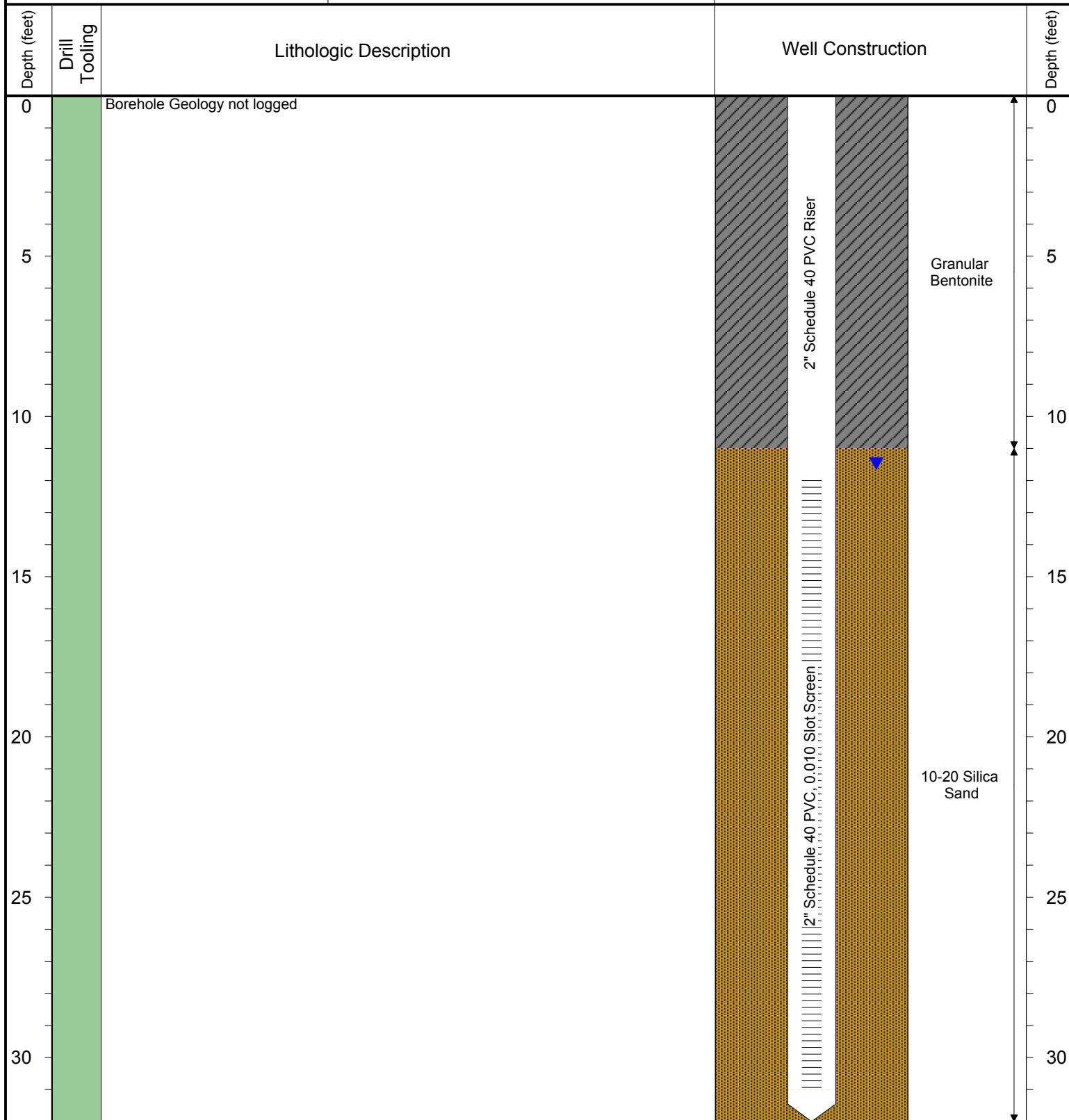
LOCATION: Weld County, Colorado

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

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): 18

DEPTH TO WATER (FT. BGS): 8.22

Pipeline 16-0000-6069-6"

BORING / WELL ID: BH02

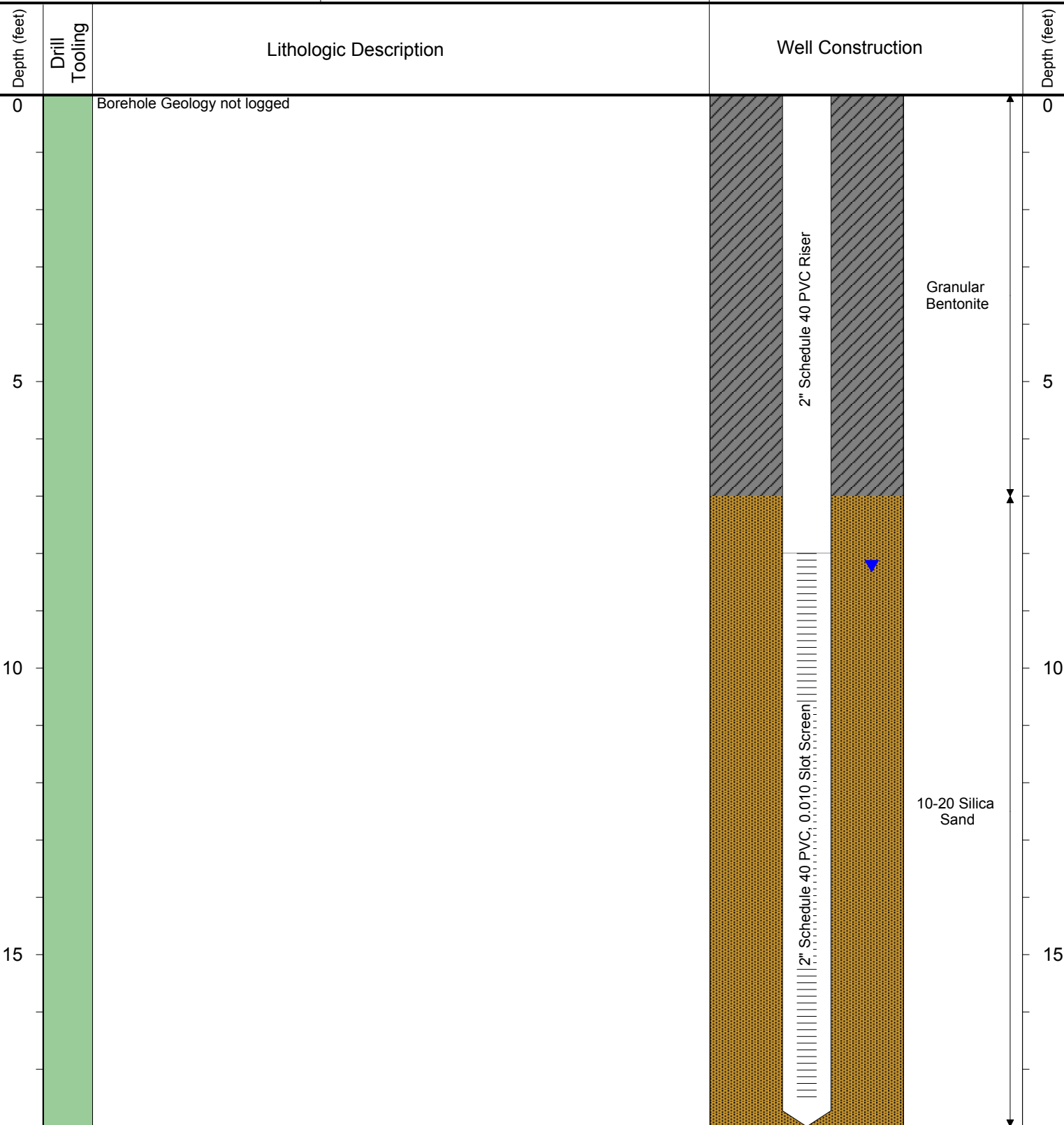
LOCATION: Weld County, Colorado

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

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: BH03

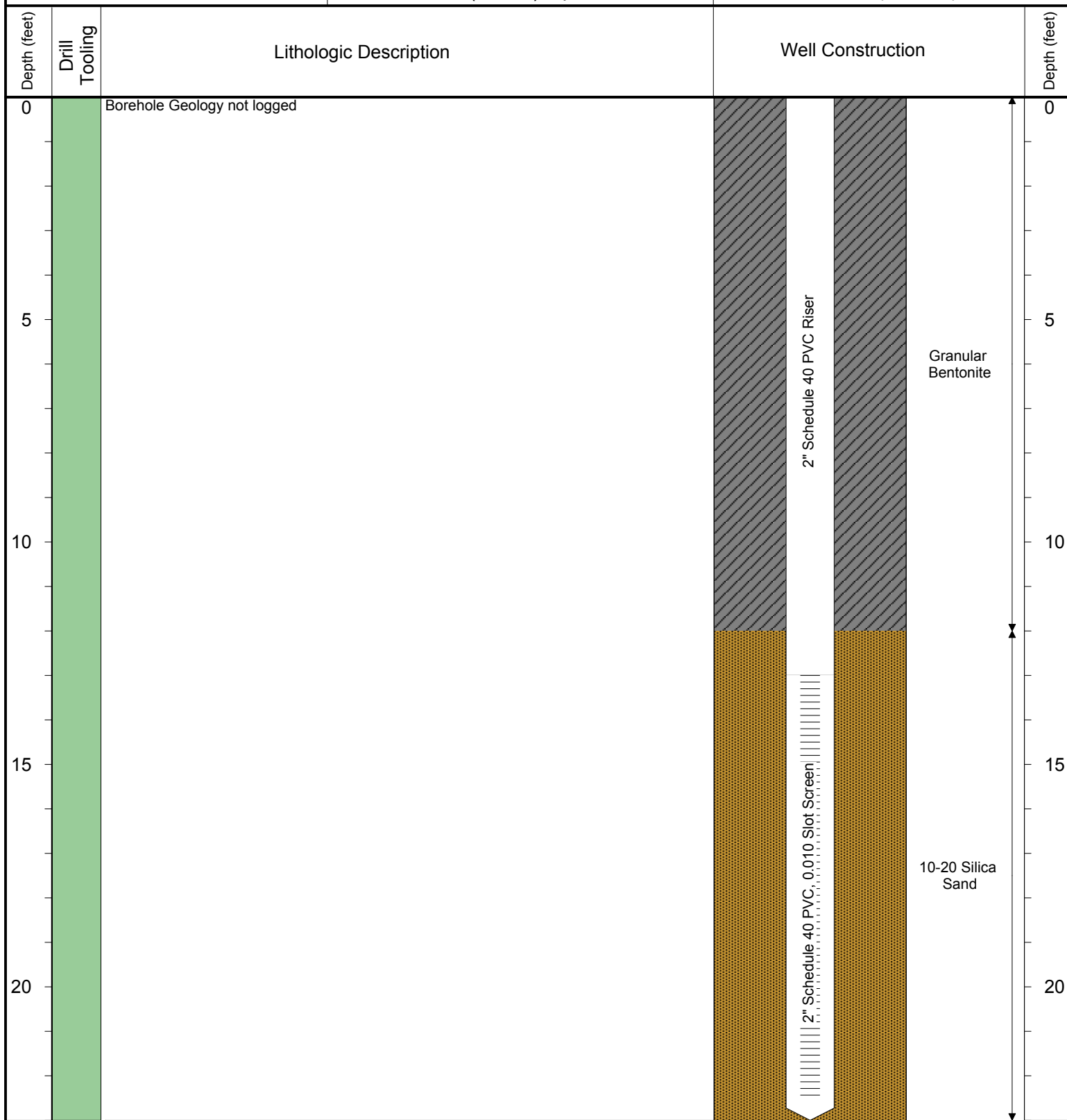
LOCATION: Weld County, Colorado

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

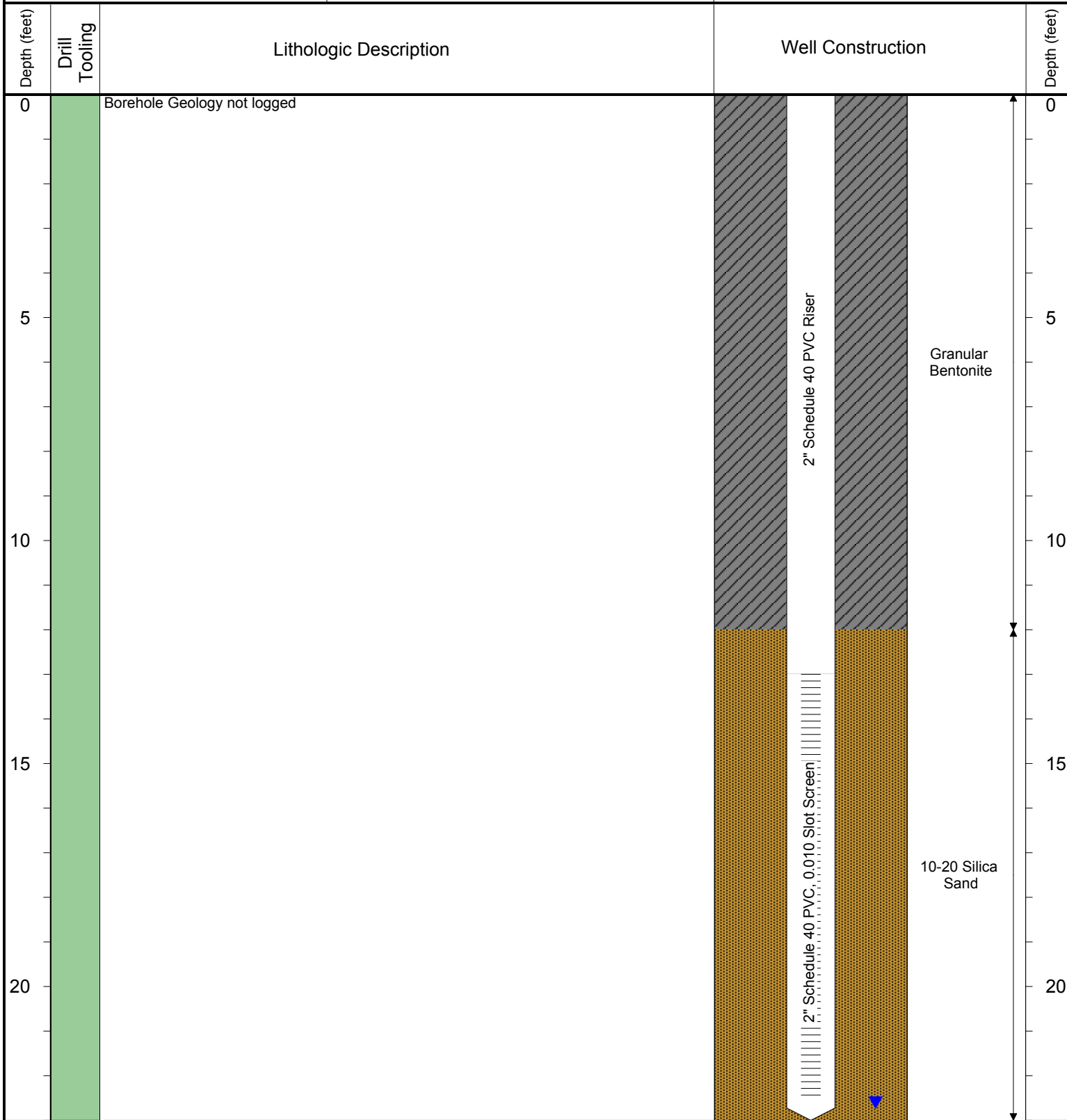
LOCATION: Weld County, Colorado

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

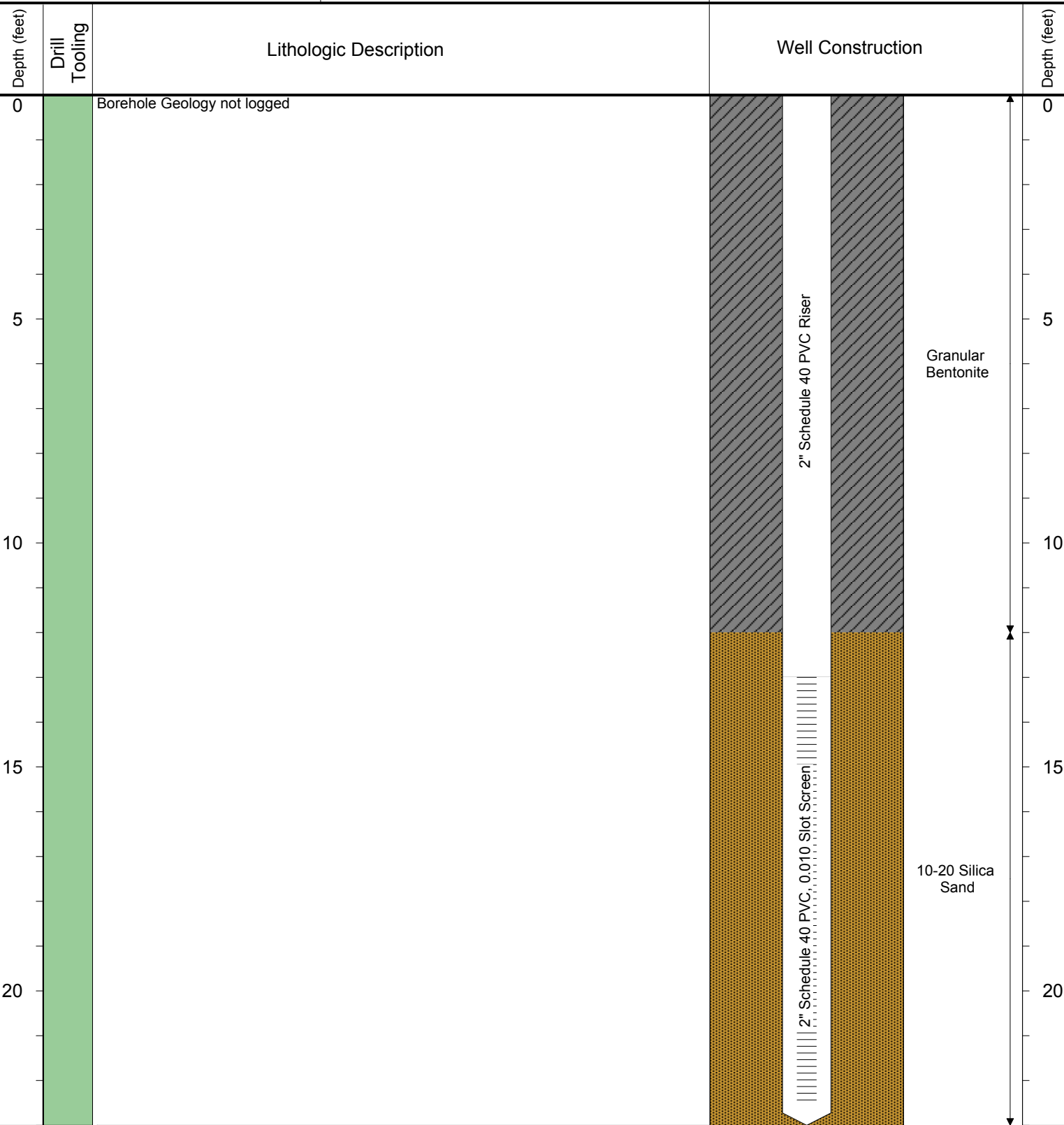
LOCATION: Weld County, Colorado

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:

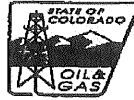
- Macro-Core
- Expendable Well Tip
- Perforated Injection Tool
- HydroPunch Groundwater Sampler

Laboratory Sample Types:

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

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

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)? <input checked="" type="checkbox"/> Y <input type="checkbox"/> 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	124' (E-W) x 20' (N-S) x 13.5' bgs	Excavation, drilling, soil sampling, and laboratory analysis
<input type="checkbox"/> Vegetation		
<input checked="" type="checkbox"/> Groundwater	See attached data	Groundwater sampling and laboratory analysis
<input type="checkbox"/> Surface water		

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document): <p>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.</p>
Describe how source is to be removed: <p>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.</p>
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.: <p>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.</p>

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. 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? ☒ 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: _____

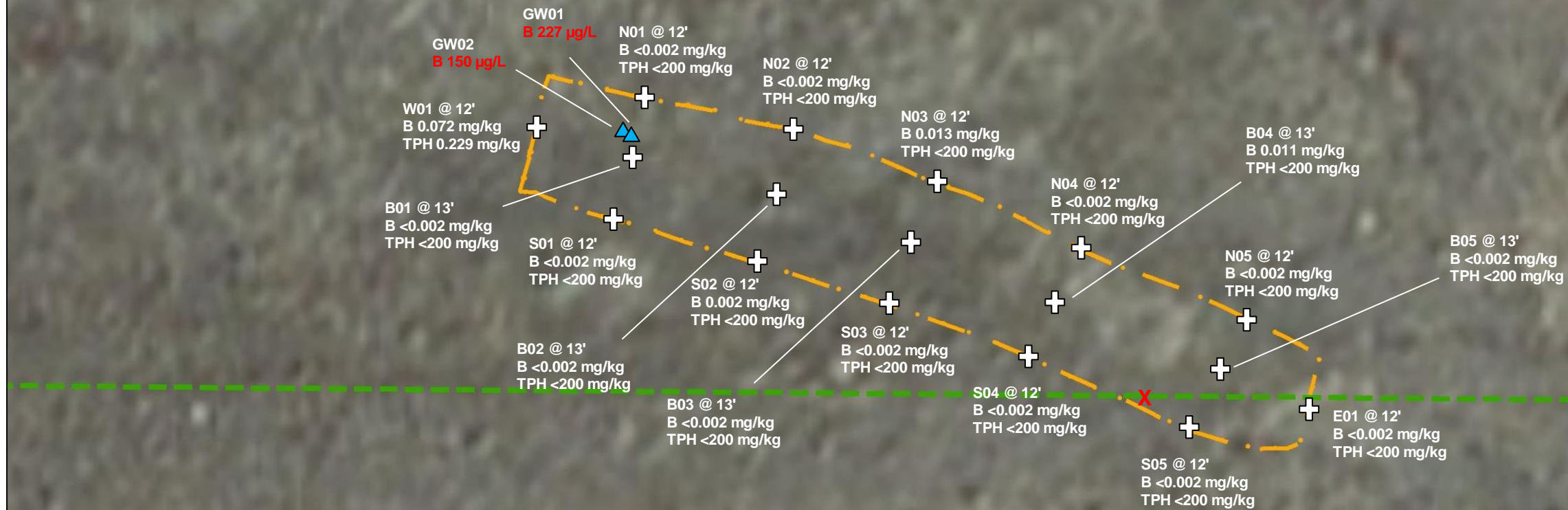
I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Charles Chase

Signed: Charles Chase Title: Staff HSE Representative Date: 9/29/15

OGCC Approved: _____ Title: _____ Date: _____

FIGURES



Legend

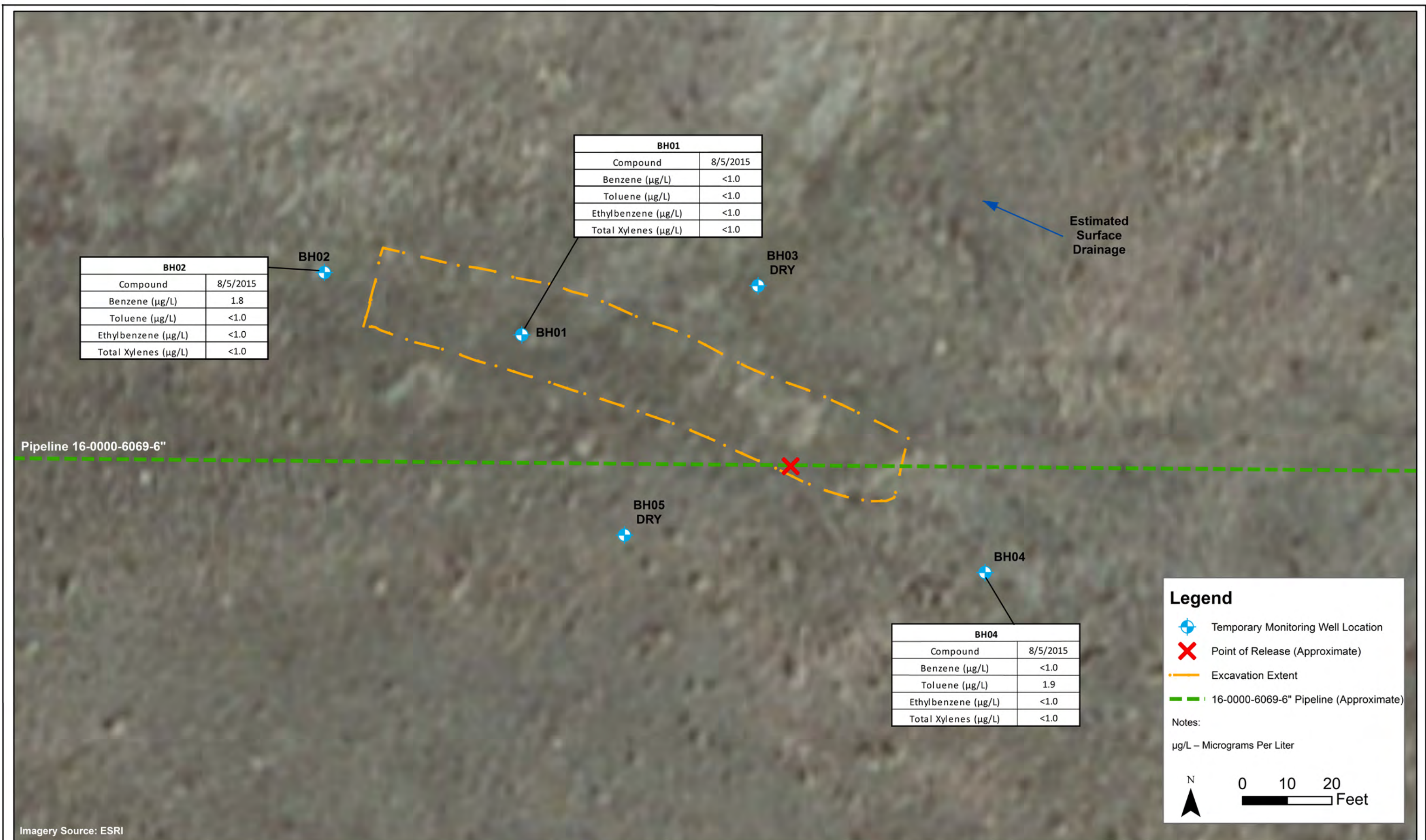
- Excavation Extent
- Point of Release (Approximate)
- Soil Sample Location (Approximate)
- Excavation Groundwater Sample (Approximate)
- 16-0000-6069-6" Pipeline (Approximate)

Notes:

B – Benzene
TPH – Total Petroleum Hydrocarbons
mg/kg – Milligrams Per Kilogram
µg/L – Micrograms Per Liter

N

0 10 20 Feet



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



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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

ORIGINS

X507279

page 1 of 2

Client: APC - midstream / Tasman
Address:
Telephone Number: 720 409 8791
Email Address: cwasko@tasman-geo.com

Project Manager: C Wasko
Project Name: Pipeline 16-0000-6069-6
Project Number:
Samples Collected by: Eliot Diller-Henry

Sample ID Description	Date Sampled	Time Sampled	Preservative				# of Containers	Analysis				All Samples labeled Quincy and Watershed please refer to project Sample instructions KMG Pipeline 16-0000-6069-6
			Unpreserved	HCl	HNO ₃	Other		Groundwater	Soil	Air	Other	
N#1 @12	07/20/15	1140										
N#2 @12		1142										
N#3 @12		1144										
N#4 @12		1146										
N#5 @12		1148										
W#1 @12		1150										
E#1 @12		1152										
S#1 @12		1154										
S#2 @12		1156										
S#3 @12		1158										
Relinquished By:	Date: 07/20/15	Time: 11:00	Received By:	Date: 7.20.15	Time: 1700	Turnaround Time:		Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/>		48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>		
Relinquished By:	Date:	Time:	Received By:	Date:	Time:							

Sample times confirmed

Origins Laboratory, Inc.

Jefe 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

ORIGINS

X50729

page 2 of 2

Client: APC-midstream/Tasman
Address:
Telephone Number: 720 409 879
Email Address: cwasko@tasman-geo.com

Project Name: Pipeline 16-0000-6069-6
Project Unit: Elliot Diller-Harzen
Project Location: Pipeline 16-0000-6069-6

Sample ID Description	Date Sampled	Time Sampled	Pres. VC V				# of Containers	Analysis				Turnaround Time	
			Unpreserved	HCl	HNO ₃	Oil		Groundwater	SO ₂	Air Sum. #	Other		TPH
504@12	07/24/15	1200											<p>All samples labeled during and witnessed please refer to project sample instructions as pipeline 16-0000-6069</p>
505@12		1202											
B01@13		1204											
B02@13		1206											
B03@13		1208											
B04@13		1210											
B05@13		1212											
<p>Relinquished By: [Signature] Date: 07/20/15 Time: 17:00</p> <p>Relinquished By: [Signature] Date: 07/20/15 Time: 17:00</p>													

Date Result Received

Origins Laboratory, Inc.

Jefe 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

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 1814

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⁾ ?	<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"/>	<u>SH</u>	<input checked="" type="checkbox"/>	<u>7/20/15</u>
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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any): <u>No sample times present on COC. Contacted Sampler (Elliot Dillon) to confirm times via phone call on 7/20/15 at 1740</u>				

⁽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)

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

N01@12

7/20/2015 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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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
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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			"	"	"
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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
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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			"	"	"
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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
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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			"	"	"
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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
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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			"	"	"
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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
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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
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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			"	"	"
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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
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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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			"	"	"
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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.



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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
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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.



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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
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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.



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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
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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.



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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
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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.



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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
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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.



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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.



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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
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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
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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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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.

Jen Pellegrini For Noelle Doyle Mathis, President

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

ORIGINS

X507280

page 1 of 1

Client: ALC Industries / Tamara
Address:

Project Manager: Cwasko

Project Name: Pipeline 16-0000-6069-6

Project Number:

Telephone Number: 720 409 874
Email Address: Cwasko

Samples Collected by: EDH

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Air/Sun & Soil		
Cwasko	07/20/17	13:00	43	P				P		BTEX 8260	1
											2
											3
											4
											5
											6
											7
											8
											9
											10
Relinquished By: [Signature]	Date: 07/20/17	Time: 17:00						Received By: [Signature]	Date: 7.20.15	Time: 1700	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/>
Relinquished By:	Date:	Time:						Received By:	Date:	Time:	48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>

Origins Laboratory, Inc.

Jeff Pellipini

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: 1567280

Client: Tasman Geosciences

Client Project ID: 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 1816

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⁾ ?	<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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			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.

Reviewed by (Project Manager) [Signature]

7/21/15
Date/Time Reviewed

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

GW01

7/20/2015 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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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
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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
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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
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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.



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

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.

Jen Pellegrini For Noelle Doyle Mathis, President

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

Sample ID Description	Date Sampled	# of Containers	Preservative					Matrix				Analysis	Sample Instructions	
			Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Sample	Other				
G1002	7/22/15	3		X			X					Other	BKX 8260	1
														2
														3
														4
														5
														6
														7
														8
														9
														10
Relinquished By: <i>Butler</i>	Date: 7/22/15	Time: 1545	Received By:					Date:				Time:	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>	
Relinquished By: <i>Butler</i>	Date:	Time:	Received By: <i>Butler</i>					Date: 7/21/15				Time: 1745 1545	4.6	

Page 3 of 10

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 #: NA

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

Cooler Number/Temperature: 1 / 4.6 °C 1 / 1 °C 1 / 1 °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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.

Jefe 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 16-000-6069-6

GW02

7/22/2015 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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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.



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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
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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.



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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.



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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.

Jen Pellegrini For Noelle Doyle Mathis, President

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.

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

ORIGINS
LABORATORY, INC

www.originslaboratory.com

page 1 of 1

XSC08052

Client: Tasman G10

Address:

Telephone Number: 352 262 9910

Email Address: lco@v2@tasman-glo.com

Project Manager: Bob Cornez

Project Name: Pipeline 16-0000-6069-6

Project Number:

Samples Collected By: Kate Foismanic

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other		
BH01	8/5/15	1116	3	X				X				BTEX S260	1
BH02	8/5/15	1114	3	X				X					2
BH04	8/5/15	1124	2	X				X					3
													4
													5
													6
													7
													8
													9
													10

Relinquished By: [Signature]

Relinquished By: [Signature]

Date: 8/5/15

Date: 8/5/15

Time: 1545

Time: 1640

Received By: [Signature]

Received By: [Signature]

Date: 8/5/15

Date: 8/5/15

Time: 1545

Time: 1640

Turnaround Time:

Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☒

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: **XS08052**

Client: Tasman

Client Project ID: Pipeline

Checklist Completed by: Jeff Smith

Shipped Via: HP

(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: (Describe)

Cooler Number/Temperature: 1 / 2.4 °C / °C / °C / °C

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>8/6/15</u> <u>KS</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)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>HCL</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.

Jeff 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

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
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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
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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
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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	"	"	"	"	"

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.



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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
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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

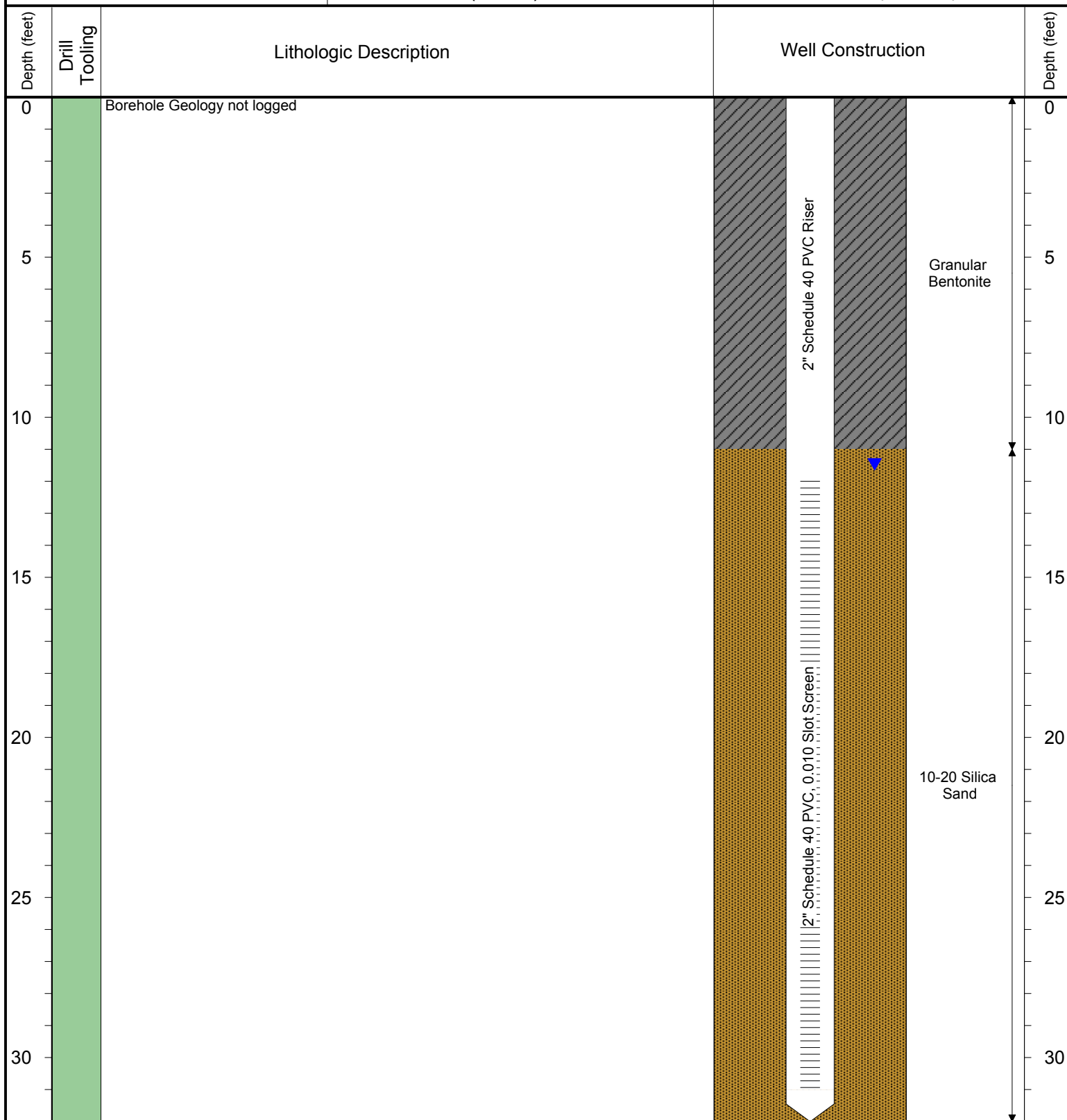
LOCATION: Weld County, Colorado

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

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): 18

DEPTH TO WATER (FT. BGS): 8.22

Pipeline 16-0000-6069-6"

BORING / WELL ID: BH02

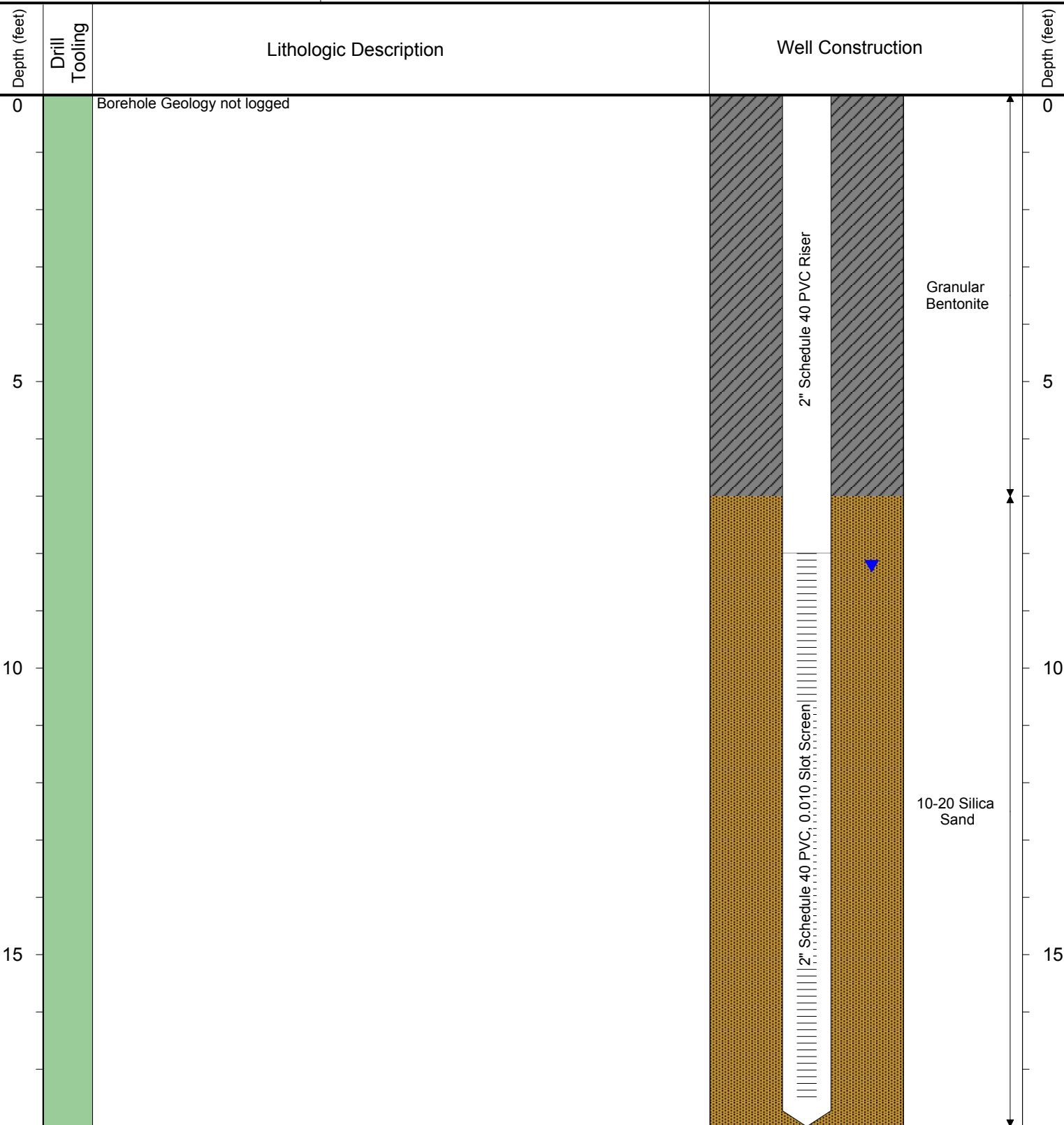
LOCATION: Weld County, Colorado

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

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: BH03

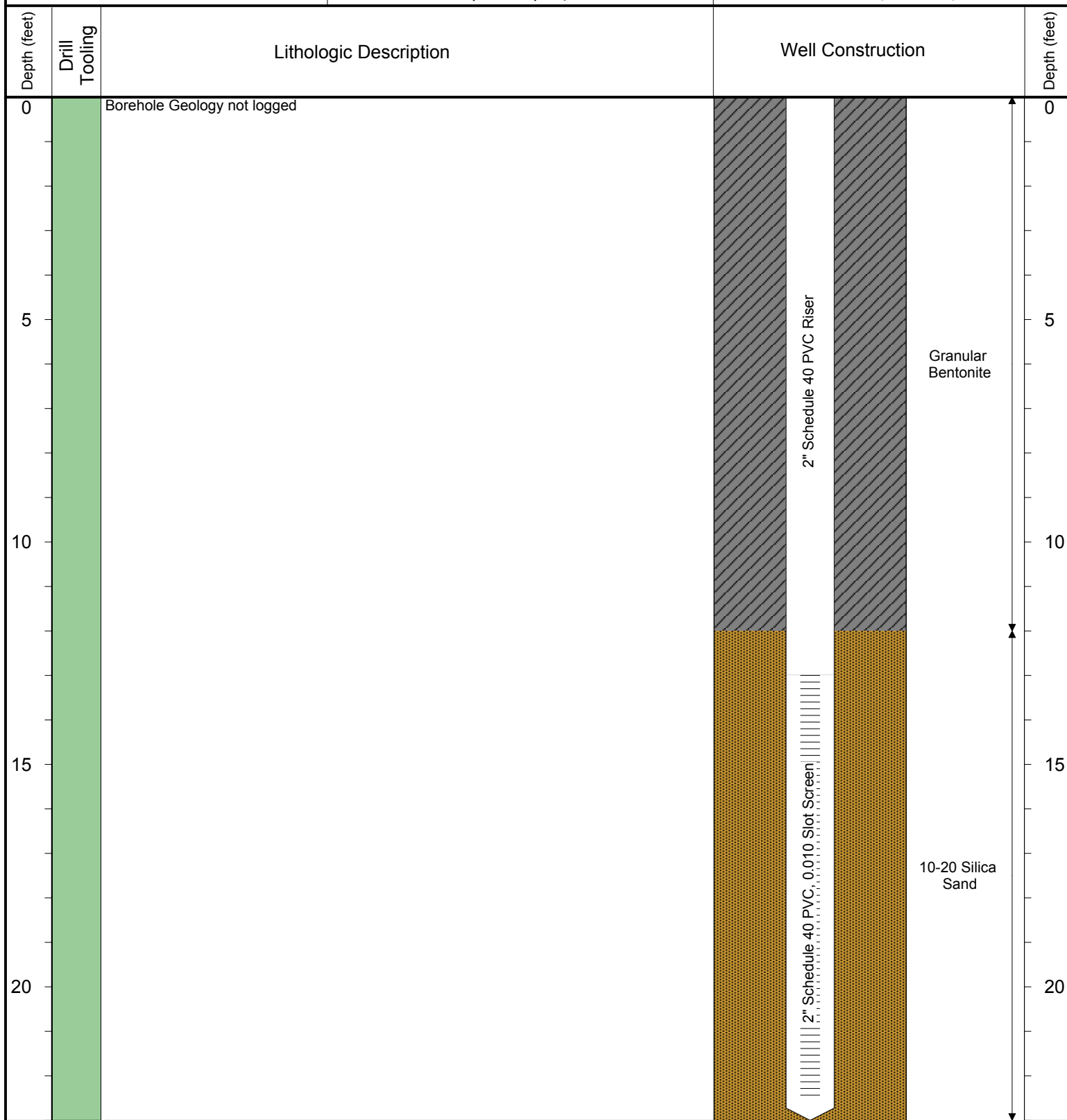
LOCATION: Weld County, Colorado

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

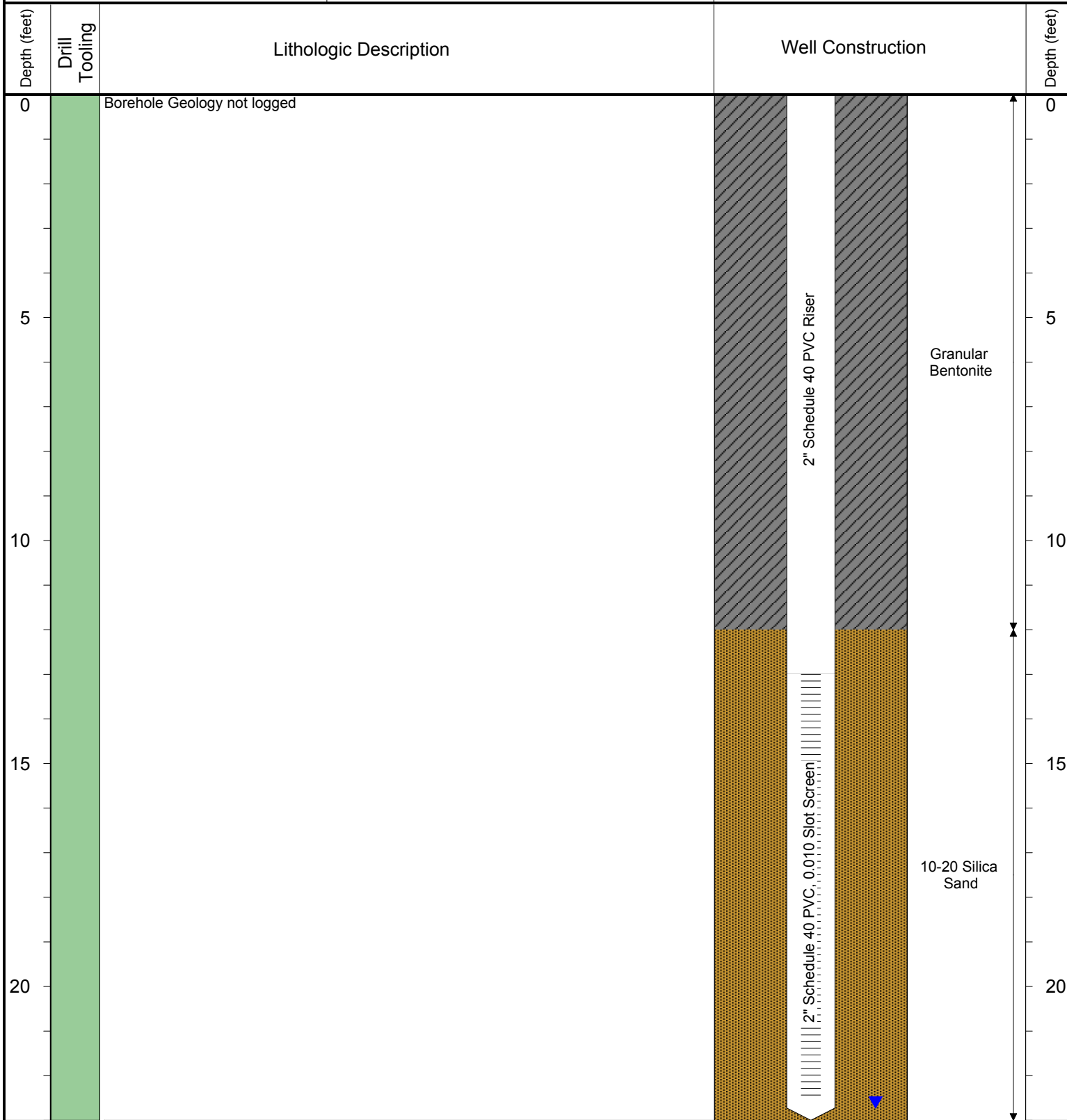
LOCATION: Weld County, Colorado

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

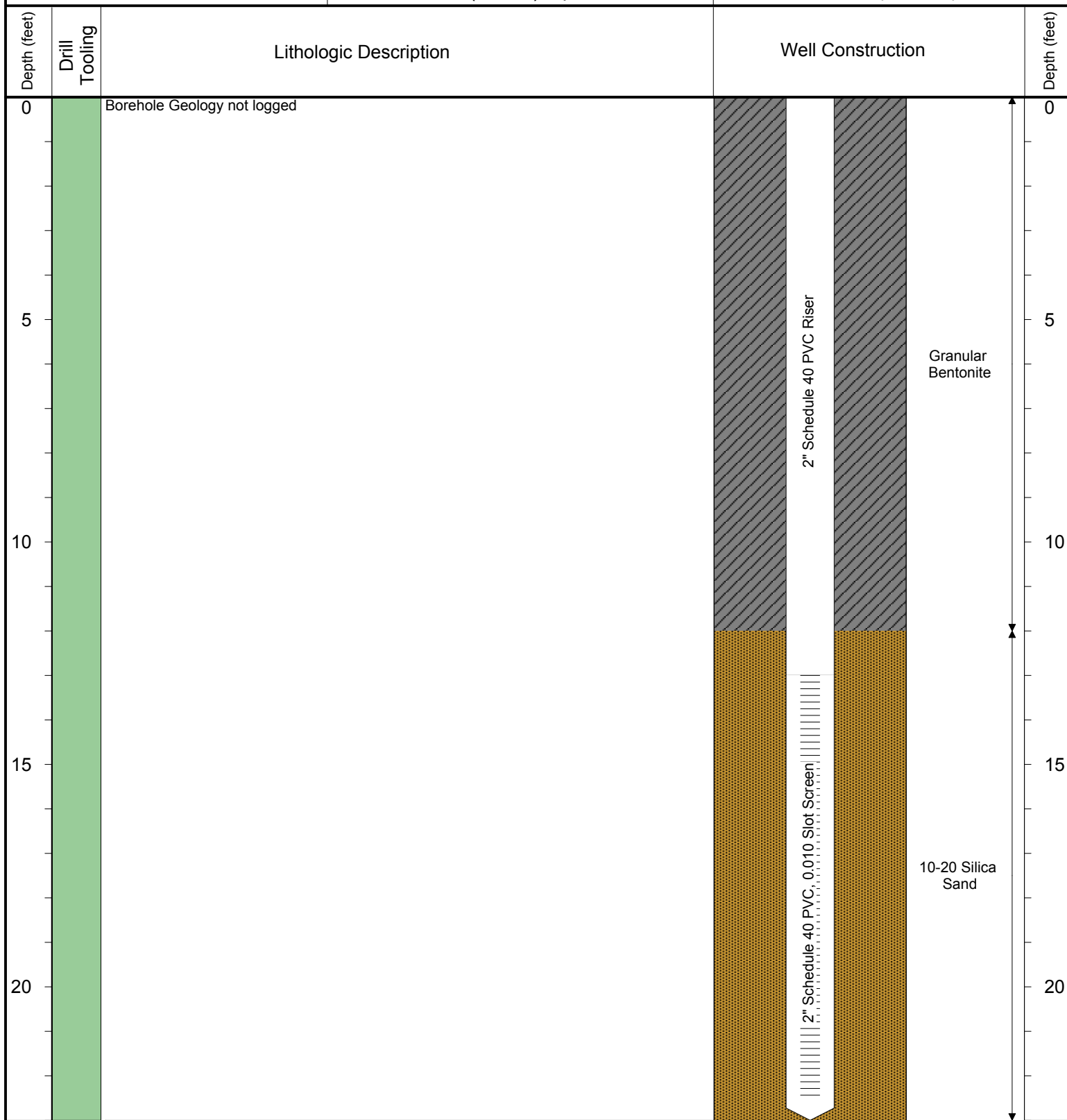
LOCATION: Weld County, Colorado

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

Laboratory Sample Types:

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