



FOR OGCC USE ONLY

OGCC Employee:

Spill Complaint

Inspection NOAV

Tracking No: _____

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.

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: 47120	Contact Name and Telephone
Name of Operator: Kerr-McGee Oil and Gas Onshore, LP	Name: Phillip Hamlin
Address: 1099 18th Street, Suite 1800	No: 970-336-3500
City: Denver State: CO Zip: 80202	Fax: 970-336-3656
API/Facility No: 328016	County: Weld
Facility Name: HSR Corvi	Facility Number: 64N66W36NWNE
Well Name: HSR Corvi	Well Number: 2-36
Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE S36 T4N R66W	Latitude: 40.273019 Longitude: -104.722636

TECHNICAL CONDITIONS

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

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

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

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Silty sand to silty clay

Potential receptors (water wells within 1/4 mi, surface waters, etc.): The nearest surface water is located approximately 1400' northwest of the site.
The nearest water well is located approximately 630' 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	25' (E-W) x 15' (N-S) x 19' bgs	Excavation, 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	_____	_____

REMEDIATION WORKPLAN

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

On February 9, 2015, historical hydrocarbon impacts were discovered during the abandonment of the HSR Corvi 64N66W36NWNE production facility. The volume of released material is unknown. The facility was shut in, associated infrastructure removed, and excavation activities commenced. Groundwater was not encountered in the initial excavation. An Initial Form 19 was submitted to the COGCC on February 12, 2014, (Document # 400789156), and a Supplemental Form 19 was submitted to the COGCC on February 19, 2015, (Document # 400794046). The COGCC has issued Spill Tracking # 440852 for this release.

Describe how source is to be removed:

On February 9, 2015, excavation activities commenced and approximately 150 cubic yards of impacted material were excavated and transported to the Buffalo Ridge Landfill in Keenesburg, 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 base and sidewalls of the excavation area at approximately 18 and 15 feet bgs, respectively. 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 benzene and TPH concentrations in soil samples N01@15, S01@15, W01@15, and B01@18 were above applicable COGCC Table 910-1 standards. Additional excavation activities were not conducted due to the presence of multiple active underground lines. Between March 5 and 10, 2015, six soil borings (S-BH01, W-BH02, N-BH03, N-BH04, W-BH05, and NW-BH06) were advanced to depths between 22 and 32 feet bgs to further delineate soil impacts. Soil impacted above COGCC Table 910-1 standards was encountered in borings W-BH02 and NW-BH06. Groundwater was encountered in the boreholes at approximately 19 feet bgs. Six groundwater samples (S-BH01, W-BH02, N-BH03, N-BH04, W-BH05, and NW-BH06) were collected and submitted for laboratory analysis of BTEX. Analytical results received on March 12, 2015, indicated that multiple constituents in samples BH02, BH03, BH04, BH05, and BH06 were above the applicable COGCC Table 910-1 groundwater standards. Soil and groundwater analytical results are summarized in Tables 1 and 2, respectively. Soil and soil boring sample locations are illustrated on Figure 1 and laboratory analytical reports are included as Attachment A.

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

Impacted soil was excavated and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado. Remediation options to address remaining in-situ soil impacts above COGCC Table 910-1 standards, including in-situ and ex-situ methodologies, are currently being evaluated. Proposed groundwater monitoring and remediation measures are described on the following page.



REMEDIATION WORKPLAN (CONT.)

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

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
As previously described, soil borings S-BH01, W-BH02, N-BH03, N-BH04, W-BH05, and NW-BH06 were converted to temporary monitoring wells BH01 - BH06 between March 5 and 10, 2015, to assess the extent of potential groundwater impacts. Additional temporary groundwater monitoring wells (BH07-BH11) were installed on August 17 and 25, 2015. Groundwater samples are collected on a quarterly basis and submitted to Origins Laboratory in Denver, Colorado for analysis of BTEX by USEPA Method 8260B. Temporary monitoring well locations and the March 2016 groundwater analytical results are illustrated on Figure 2, and the most recent quarterly groundwater 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. Kerr-McGee's tank battery has been decommissioned and will not be rebuilt. 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:
Laboratory data indicate that impacted soil was partially removed via excavation. Remediation options for remaining impacted soils are under evaluation. Temporary monitoring wells have been installed to further assess groundwater impacts, and groundwater points of compliance have been achieved in multiple directions. Additional monitoring wells may be installed as necessary. Soil and groundwater analytical results are summarized in Tables 1 and 2, respectively. The analytical laboratory reports are included as Attachment A.

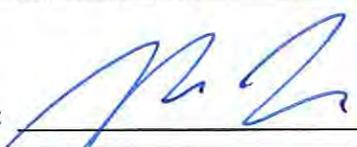
Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):
Impacted soil was transported to the Buffalo Ridge Landfill in Keensburg, Colorado for disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began:	<u>2/9/2015</u>	Date Site Investigation Completed:	<u>TBD</u>	Remediation Plan Submitted:	_____
Remediation Start Date:	<u>2/9/2015</u>	Anticipated Completion Date:	<u>12/15/2017</u>	Actual Completion Date:	_____

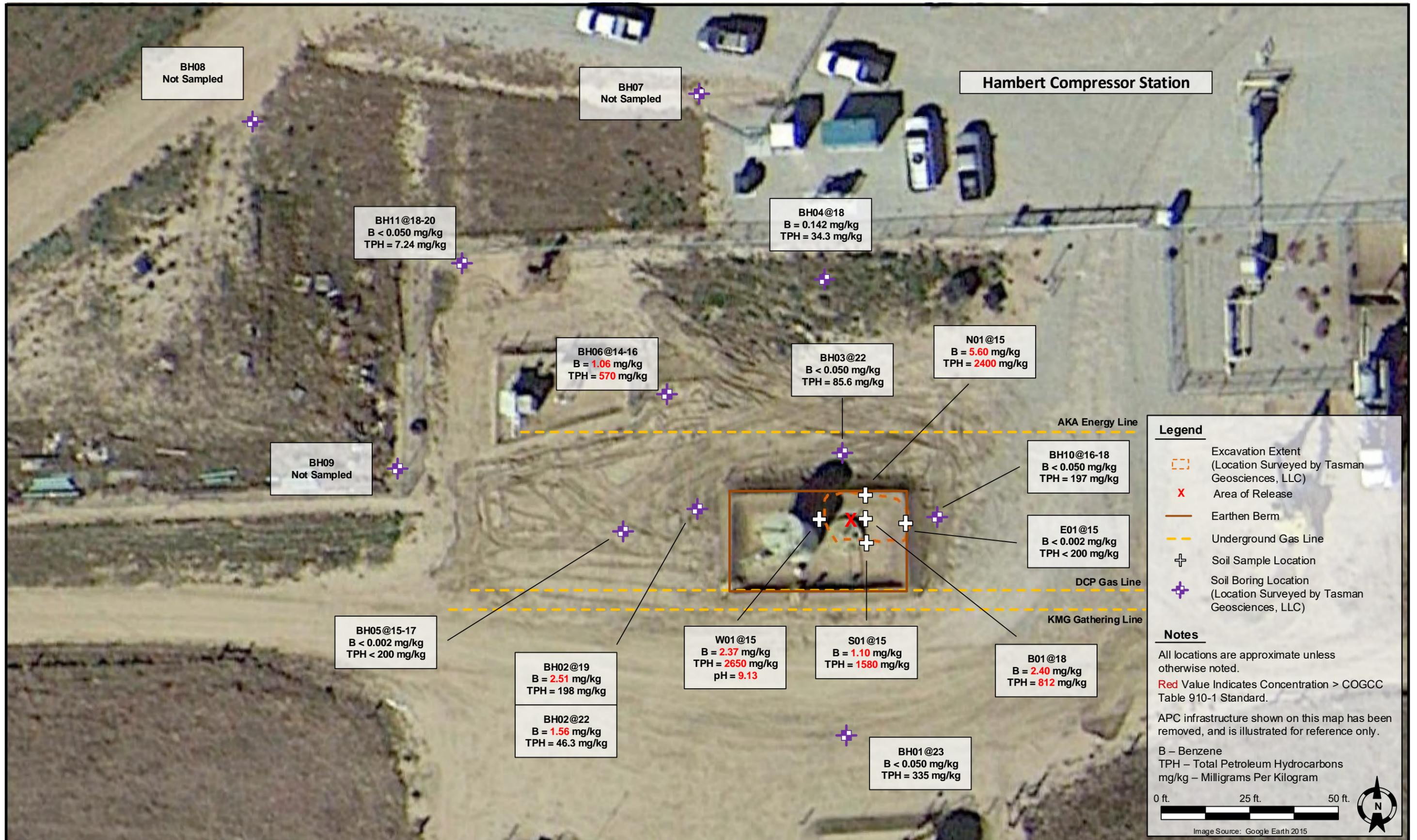
I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Phillip Hamlin

Signed:  Title: Senior HSE Representative Date: 5/10/2016

OGCC Approved: _____ Title: _____ Date: _____

FIGURES



DATE: April 22, 2016
 DESIGNED BY: R. Bruner
 DRAWN BY: R. Bruner



Kerr-McGee Oil and Gas Onshore, LP
HSR COR VI 64N66W36NWNE
 NWNE, Section 36, Township 4 North, Range 66 West
 Weld County, Colorado

Sample Location Map

FIGURE 1



DATE: April 25, 2016

DESIGNED BY: R. Bruner

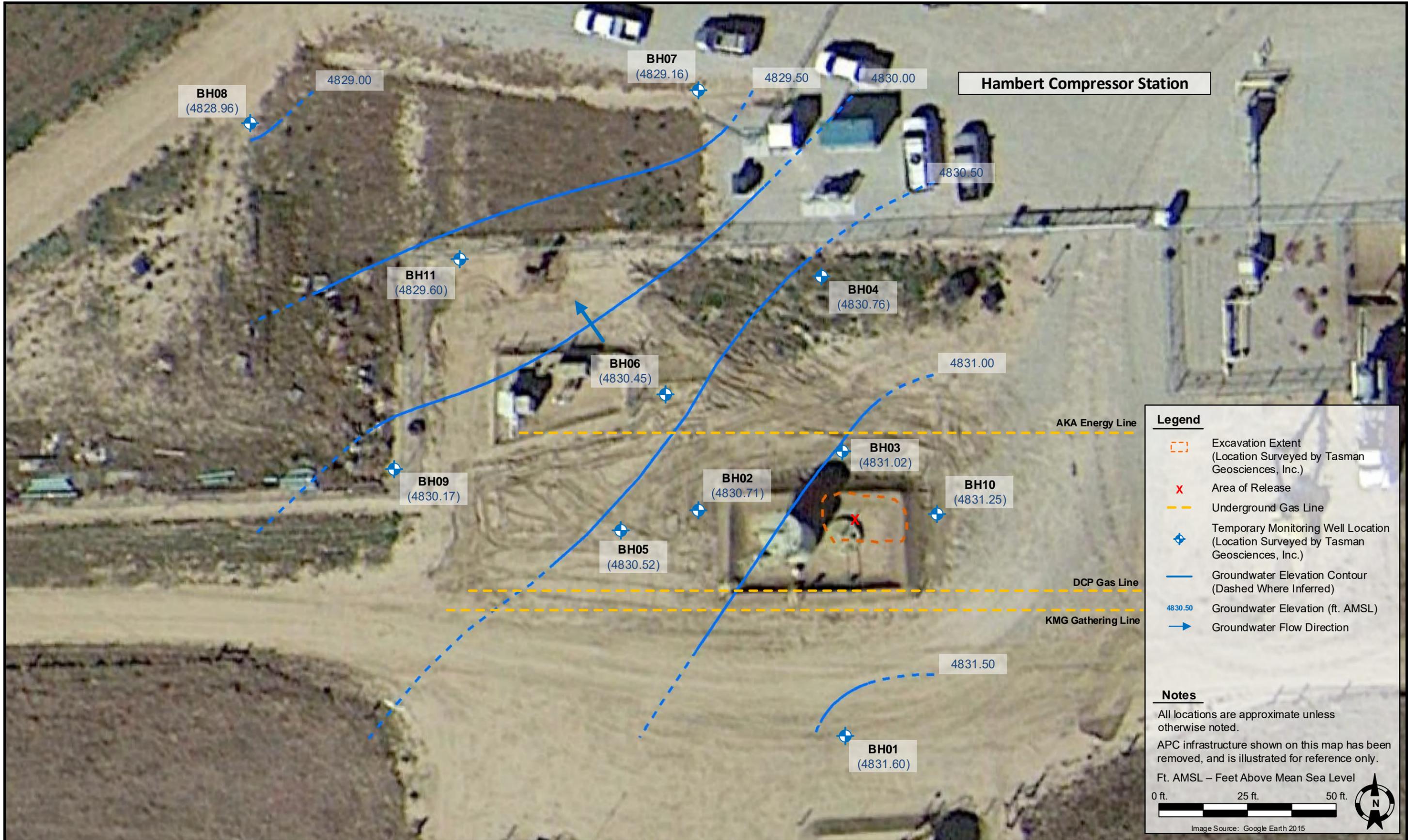
DRAWN BY: R. Bruner



Kerr-McGee Oil and Gas Onshore, LP
HSR CORVI 64N66W36NWN
 NWNE, Section 36, Township 4 North, Range 66 West
 Weld County, Colorado

Groundwater Sample Results
 Map (03/16/2016)

FIGURE
 2



DATE:	April 1, 2016
DESIGNED BY:	Z. Mahaffey
DRAWN BY:	Z. Mahaffey



Kerr-McGee Oil and Gas Onshore, LP
HSR CORVI 64N66W36NWNE
 NWNE, Section 36, Township 4 North, Range 66 West
 Weld County, Colorado

Groundwater Elevation Contour
 Map (3/16/2016)

FIGURE
 3

**ANALYTICAL
TABLES**

TABLE 1
HSR CORVI 64N66W36NWN
SOIL SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample ID	Date	Depth (ft. 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)	EC (mmhos/cm)	pH (units)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	500			4 mmhos/cm or 2x BG	6-9
N01@15	2/9/2015	15	5.60	77.8	7.82	125	1,920	480	<200	0.138	8.73
S01@15	2/9/2015	15	1.10	23.8	5.33	83.2	1,200	380	<200	0.118	8.39
E01@15	2/9/2015	15	<0.002	<0.002	<0.002	0.007	<0.200	<50	<200	0.0842	8.42
W01@15	2/9/2015	15	2.37	2.16	13.2	164	2,200	450	<200	0.172	9.13
B01@18	2/9/2015	18	2.40	20.7	2.34	40.2	632	180	<200	0.201	8.96
S-BH01@23	3/5/2015	23	<0.050	<0.050	1.55	7.87	335	<50	<200	0.132	8.42
W-BH02@19	3/6/2015	19	2.51	16.9	0.856	10.3	198	<50	<200	0.133	8.12
W-BH02@22	3/6/2015	22	1.56	0.235	0.256	3.04	46.3	<50	<200	0.0859	8.45
N-BH03@22	3/6/2015	22	<0.050	0.146	0.105	1.58	85.6	<50	<200	0.0658	8.84
N-BH04@18	3/6/2015	18	0.142	0.258	0.194	2.26	34.3	<50	<200	0.0908	8.35
W-BH05@15-17	3/10/2015	15-17	<0.002	<0.002	<0.002	<0.002	<50	<50	<200	0.0912	8.93
NW-BH06@14-16	3/10/2015	14-16	1.06	24.3	3.05	43.7	420	150	<200	0.147	8.98
BH10@16-18	8/25/2015	16-18	<0.050	<0.050	0.300	1.92	197	<50	<200	NS	NS
BH11@18-20	8/25/2015	18-20	<0.050	<0.050	<0.050	<0.050	7.24	<50	<200	NS	NS

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective January 1, 2015.

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

EC = Electrical conductivity

BG = Background

mmhos/cm = Millimhos per centimeter

mg/kg = Milligrams per kilogram.

ft. bgs = Feet below ground surface.

NS = Not Sampled

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

TABLE 2
HSR CORVI 64N66W36NWNE
GROUNDWATER SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth To Water (ft. BTOC)
COGCC Standards for groundwater (µg/L) ⁽¹⁾		5	560	700	1,400	
BH01	3/11/2015	3.4	<1.0	4.2	23.6	18.20
BH01	9/8/2015	7.0	<1.0	6.0	3.3	15.98
BH01	12/8/2015	<1.0	<1.0	<1.0	<1.0	16.16
BH01	3/16/2016	<1.0	<1.0	<1.0	<1.0	15.60
BH02	3/11/2015	1,350	944	144	1,900	19.72
BH02	9/8/2015	3,090	2,700	131	2,010	14.57
BH02	12/8/2015	2,460	933	78.8	928	14.60
BH02	3/16/2016	2,560	712	72.4	925	14.03
BH03	3/11/2015	720	4,140	258	4,380	14.99
BH03	9/8/2015	158	220	12.8	297	12.69
BH03	12/8/2015	52.6	18.4	2.1	37.1	12.81
BH03	3/16/2016	9.5	7.2	<4.0	8.9	12.29
BH04	3/11/2015	334	3,700	722	9,660	14.31
BH04	9/8/2015	1,000	6,590	575	8,070	11.73
BH04	12/8/2015	176	474	280	3,480	11.85
BH04	3/16/2016	172	316	196	2,320	11.30
BH05	3/11/2015	75.5	<1.0	65.4	346	17.58
BH05	9/8/2015	39.7	1.3	4.5	10.9	15.18
BH05	12/8/2015	28.5	<2.0	38.8	127	15.22
BH05	3/16/2016	5.9	<1.0	9.2	29.3	14.62
BH06	3/11/2015	13,900	20,500	760	11,800	15.59
BH06	9/8/2015	4,480	6,010	95.3	3,770	13.03
BH06	12/8/2015	12,200	11,100	598	10,200	13.03
BH06	3/16/2016	11,800	6,810	732	12,100	12.47
BH07	9/8/2015	<1.0	<1.0	<1.0	<1.0	12.20
BH07	12/8/2015	<1.0	<1.0	<1.0	<1.0	12.17
BH07	3/16/2016	<1.0	<1.0	<1.0	<1.0	11.59
BH08	9/8/2015	<1.0	<1.0	<1.0	<1.0	12.29
BH08	12/8/2015	<1.0	<1.0	<1.0	<1.0	12.09
BH08	3/16/2016	<1.0	<1.0	<1.0	<1.0	11.54
BH09	9/8/2015	<1.0	<1.0	<1.0	<1.0	14.05
BH09	12/8/2015	<1.0	<1.0	<1.0	<1.0	13.96
BH09	3/16/2016	<1.0	<1.0	<1.0	<1.0	13.40

Notes:

1. Standards for groundwater are taken from 2 CCR 404-1, Table 910-1, effective January 1, 2015.

COGCC = Colorado Oil and Gas Conservation Commission

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

µg/L = Micrograms per liter.

ft. BTOC = Feet below top of casing.

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

TABLE 2
HSR CORVI 64N66W36NWNE
GROUNDWATER SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth To Water (ft. BTOC)
COGCC Standards for groundwater (µg/L) ⁽¹⁾		5	560	700	1,400	
BH10	9/8/2015	<1.0	<1.0	<1.0	2.7	13.73
BH10	12/8/2015	<1.0	<1.0	<1.0	<1.0	13.88
BH10	3/16/2016	<1.0	<1.0	<1.0	<1.0	13.37
BH11	9/8/2015	1.7	2.6	<1.0	<1.0	13.25
BH11	12/8/2015	<1.0	<1.0	<1.0	<1.0	13.14
BH11	3/16/2016	<1.0	<1.0	<1.0	<1.0	12.58

Notes:

1. Standards for groundwater are taken from 2 CCR 404-1, Table 910-1, effective January 1, 2015.

COGCC = Colorado Oil and Gas Conservation Commission

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

µg/L = Micrograms per liter.

ft. BTOC = Feet below top of casing.

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

**ATTACHMENT A
LABORATORY
ANALYTICAL REPORTS**

February 10, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. February 09, 2015. This project is associated with Origins project number X502097-01.

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

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

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

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

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

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



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01 @ 15	X502097-01	Soil	February 9, 2015 14:30	02/09/2015 16:10
S01 @ 15	X502097-02	Soil	February 9, 2015 14:33	02/09/2015 16:10
E01 @ 15	X502097-03	Soil	February 9, 2015 14:35	02/09/2015 16:10
W01 @ 15	X502097-04	Soil	February 9, 2015 14:37	02/09/2015 16:10
B01 @ 18	X502097-05	Soil	February 9, 2015 14:40	02/09/2015 16:10

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 - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XSUZ097

Client: Tasman

Client Project ID: HSR Corvi 2-36

Checklist Completed by: Jeff Smith

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

Date/time completed: 2/9/15

Airbill #: NA

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

Cooler Number/Temperature: 1153 °C 1 °C 1 °C (Describe) °C

Thermometer ID: J053

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

02-09-15/1920
 Date/Time Reviewed

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

N01 @ 15
2/9/2015 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X502097-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	480	50	mg/kg	1	5B09012	02/09/2015	02/10/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: *o*-Terphenyl 81.4 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1920	50.0	mg/kg	250	5B09007	02/09/2015	02/09/2015	
Benzene	5.60	0.050	"	25	"	"	02/09/2015	
Toluene	77.8	0.498	"	250	"	"	02/09/2015	
Ethylbenzene	7.82	0.050	"	25	"	"	02/09/2015	
Xylenes, total	125	0.498	"	250	"	"	02/09/2015	

Surrogate: 1,2-Dichloroethane-d4 154 % 70-130 " " " S-02
 Surrogate: Toluene-d8 121 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 108 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.73		pH Units	1	5B09014	02/09/2015	02/09/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.138		mmhos/cm	"	5B09013	02/09/2015	02/09/2015	
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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 - HSR Corvi 2-36

S01 @ 15
2/9/2015 2:33:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X502097-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	380	50	mg/kg	1	5B09012	02/09/2015	02/10/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: *o*-Terphenyl 86.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1200	50.0	mg/kg	250	5B09007	02/09/2015	02/09/2015	
Benzene	1.10	0.050	"	25	"	"	02/09/2015	
Toluene	23.8	0.498	"	250	"	"	02/09/2015	
Ethylbenzene	5.33	0.050	"	25	"	"	02/09/2015	
Xylenes, total	83.2	0.498	"	250	"	"	02/09/2015	

Surrogate: 1,2-Dichloroethane-d4 137 % 70-130 " " " S-02
 Surrogate: Toluene-d8 108 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.39		pH Units	1	5B09014	02/09/2015	02/09/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.118		mmhos/cm	"	5B09013	02/09/2015	02/09/2015	
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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 - HSR Corvi 2-36

E01 @ 15
2/9/2015 2:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X502097-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5B09012	02/09/2015	02/10/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 91.4 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5B09007	02/09/2015	02/09/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	0.007	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 135 % 70-130 " " " S-GC
Surrogate: Toluene-d8 103 % 70-130 " " " "
Surrogate: 4-Bromofluorobenzene 111 % 70-130 " " " "

pH in Soil by EPA 9045D

pH	8.42		pH Units	1	5B09014	02/09/2015	02/09/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0842		mmhos/cm	"	5B09013	02/09/2015	02/09/2015	
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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 - HSR Corvi 2-36

W01 @ 15
2/9/2015 2:37:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X502097-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	450	50	mg/kg	1	5B09012	02/09/2015	02/10/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 79.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	2200	50.0	mg/kg	250	5B09007	02/09/2015	02/09/2015	
Benzene	2.37	0.050	"	25	"	"	02/10/2015	
Toluene	2.16	0.050	"	"	"	"	"	
Ethylbenzene	13.2	0.498	"	250	"	"	02/09/2015	
Xylenes, total	164	0.498	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 166 % 70-130 " " " S-02
Surrogate: Toluene-d8 135 % 70-130 " " " S-02
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " " "

pH in Soil by EPA 9045D

pH	9.13		pH Units	1	5B09014	02/09/2015	02/09/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.172		mmhos/cm	"	5B09013	02/09/2015	02/09/2015	
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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 - HSR Corvi 2-36

B01 @ 18
2/9/2015 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X502097-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	180	50	mg/kg	1	5B09012	02/09/2015	02/10/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: *o*-Terphenyl 96.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	632	50.0	mg/kg	250	5B09007	02/09/2015	02/09/2015	
Benzene	2.40	0.050	"	25	"	"	02/10/2015	
Toluene	20.7	0.498	"	250	"	"	02/09/2015	
Ethylbenzene	2.34	0.050	"	25	"	"	02/10/2015	
Xylenes, total	40.2	0.498	"	250	"	"	02/09/2015	

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

Surrogate: Toluene-d8 107 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.96		pH Units	1	5B09014	02/09/2015	02/09/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.201		mmhos/cm	"	5B09013	02/09/2015	02/09/2015	
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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 - HSR Corvi 2-36

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 5B09007 - EPA 5030 (soil)

Blank (5B09007-BLK1)

Prepared: 02/09/2015 Analyzed: 02/09/2015

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	81.0		ug/kg	62.5		130	70-130			
Surrogate: Toluene-d8	64.2		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	63.7		"	62.5		102	70-130			

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5B09007 - EPA 5030 (soil)

LCS (5B09007-BS1)

Prepared: 02/09/2015 Analyzed: 02/09/2015

Benzene	0.080	0.002	mg/kg	0.100		80.2	77.1-124			
Toluene	0.083	0.002	"	0.100		83.2	74.5-128			
Ethylbenzene	0.083	0.002	"	0.100		82.6	66.4-127			
m,p-Xylene	0.167	0.004	"	0.200		83.7	76.6-124			
o-Xylene	0.086	0.002	"	0.100		86.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	79.0		ug/kg	62.5		126	70-130			
Surrogate: Toluene-d8	64.0		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	65.3		"	62.5		104	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 - HSR Corvi 2-36

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 5B09007 - EPA 5030 (soil)

Matrix Spike (5B09007-MS1)	Source: X502080-01			Prepared: 02/09/2015 Analyzed: 02/09/2015						
Benzene	0.072	0.002	mg/kg	0.100	ND	71.8	71.8-126			
Toluene	0.072	0.002	"	0.100	ND	72.1	65.1-130			
Ethylbenzene	0.071	0.002	"	0.100	ND	71.4	62.2-130			
m,p-Xylene	0.142	0.004	"	0.200	ND	71.2	46.5-137			
o-Xylene	0.071	0.002	"	0.100	ND	71.2	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	73.6		ug/kg	62.5		118	70-130			
Surrogate: Toluene-d8	60.0		"	62.5		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	65.3		"	62.5		104	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 - HSR Corvi 2-36

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 5B09007 - EPA 5030 (soil)

Matrix Spike Dup (5B09007-MSD1)	Source: X502080-01			Prepared: 02/09/2015 Analyzed: 02/09/2015						
Benzene	0.094	0.002	mg/kg	0.100	ND	94.0	71.8-126	26.7	11.3	QR-03
Toluene	0.095	0.002	"	0.100	ND	95.3	65.1-130	27.7	15.4	QR-03
Ethylbenzene	0.096	0.002	"	0.100	ND	95.9	62.2-130	29.4	19.6	QR-03
m,p-Xylene	0.191	0.004	"	0.200	ND	95.7	46.5-137	29.3	19.2	QR-03
o-Xylene	0.102	0.002	"	0.100	ND	102	54.2-134	35.6	17.9	QR-03
Surrogate: 1,2-Dichloroethane-d4	78.6		ug/kg	62.5		126	70-130			
Surrogate: Toluene-d8	64.6		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	66.9		"	62.5		107	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 - HSR Corvi 2-36

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 8015M - 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 5B09012 - EPA 3580

Blank (5B09012-BLK1)

Prepared: 02/09/2015 Analyzed: 02/09/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	50		"	50.0		99.6	59-131			

LCS (5B09012-BS1)

Prepared: 02/09/2015 Analyzed: 02/09/2015

Diesel (C10-C28)	880	50	mg/kg	1000		87.7	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		100	58-124			
Surrogate: o-Terphenyl	49		"	50.0		98.8	59-131			

Matrix Spike (5B09012-MS1)

Source: X502096-01

Prepared: 02/09/2015 Analyzed: 02/09/2015

Diesel (C10-C28)	900	50	mg/kg	1000	17	88.3	53-125			
Residual Range Organics (C28-C36)	1000	200	"	1000	16	101	47-133			
Surrogate: o-Terphenyl	44		"	50.0		88.3	59-131			

Matrix Spike Dup (5B09012-MSD1)

Source: X502096-01

Prepared: 02/09/2015 Analyzed: 02/09/2015

Diesel (C10-C28)	900	50	mg/kg	1000	17	88.3	53-125	0.0121	20	
Residual Range Organics (C28-C36)	1000	200	"	1000	16	99.7	47-133	1.10	20	
Surrogate: o-Terphenyl	46		"	50.0		91.2	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 - HSR Corvi 2-36

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5B09013 - NO PREP										
Blank (5B09013-BLK1)					Prepared: 02/09/2015 Analyzed: 02/09/2015					
Specific Conductance (EC)	0.00280		mmhos/cm							
Duplicate (5B09013-DUP1)					Source: X502097-01 Prepared: 02/09/2015 Analyzed: 02/09/2015					
Specific Conductance (EC)	0.140		mmhos/cm		0.138			1.44	25	
Batch 5B09014 - NO PREP										
Duplicate (5B09014-DUP1)					Source: X502097-01 Prepared: 02/09/2015 Analyzed: 02/09/2015					
pH	8.75		pH Units		8.73			0.229	25	

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 - HSR Corvi 2-36

Notes and Definitions

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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.

March 06, 2015

Tasman Geosciences
Christine Wasko
6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. March 05, 2015. This project is associated with Origins project number X503042-01.

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

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

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

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

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

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



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-BH01 @ 23	X503042-01	Soil	March 5, 2015 14:20	03/05/2015 17:20

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.

Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS03042

Client: Tasman

Client Project ID: HSR-Corvi 236

Checklist Completed by: Jeff Smith

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

Date/time completed: 3/5/15

Airbill #: NA

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

Cooler Number/Temperature: 1 / 11.1 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T1053

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

3/5/15
 Date/Time Reviewed

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5C05007 - EPA 5030 (soil)										
Blank (5C05007-BLK1) Prepared: 03/05/2015 Analyzed: 03/05/2015										
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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>63.2</i>		<i>ug/kg</i>	<i>62.5</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>67.2</i>		<i>"</i>	<i>62.5</i>		<i>107</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>61.9</i>		<i>"</i>	<i>62.5</i>		<i>99.0</i>	<i>70-130</i>			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5C05007 - EPA 5030 (soil)

LCS (5C05007-BS1)

Prepared: 03/05/2015 Analyzed: 03/05/2015

Benzene	0.092	0.002	mg/kg	0.100		91.7	77.1-124			
Toluene	0.101	0.002	"	0.100		101	74.5-128			
Ethylbenzene	0.096	0.002	"	0.100		96.1	66.4-127			
m,p-Xylene	0.190	0.004	"	0.200		95.2	76.6-124			
o-Xylene	0.101	0.002	"	0.100		101	76.6-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>54.7</i>		<i>ug/kg</i>	<i>62.5</i>		<i>87.6</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>64.4</i>		<i>"</i>	<i>62.5</i>		<i>103</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>68.2</i>		<i>"</i>	<i>62.5</i>		<i>109</i>	<i>70-130</i>			

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 - HSR Corvi 2-36

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 5C05007 - EPA 5030 (soil)

Matrix Spike (5C05007-MS1)	Source: X503034-13			Prepared: 03/05/2015 Analyzed: 03/05/2015						
Benzene	0.091	0.002	mg/kg	0.100	ND	90.5	71.8-126			
Toluene	0.099	0.002	"	0.100	ND	99.2	65.1-130			
Ethylbenzene	0.092	0.002	"	0.100	ND	91.6	62.2-130			
m,p-Xylene	0.189	0.004	"	0.200	ND	94.3	46.5-137			
o-Xylene	0.093	0.002	"	0.100	ND	93.2	54.2-134			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>57.2</i>		<i>ug/kg</i>	<i>62.5</i>		<i>91.4</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>59.5</i>		<i>"</i>	<i>62.5</i>		<i>95.2</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>61.2</i>		<i>"</i>	<i>62.5</i>		<i>98.0</i>	<i>70-130</i>			

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 - HSR Corvi 2-36

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 5C05007 - EPA 5030 (soil)										
Matrix Spike Dup (5C05007-MSD1)		Source: X503034-13			Prepared: 03/05/2015 Analyzed: 03/05/2015					
Benzene	0.084	0.002	mg/kg	0.100	ND	83.6	71.8-126	7.90	11.3	
Toluene	0.094	0.002	"	0.100	ND	94.1	65.1-130	5.36	15.4	
Ethylbenzene	0.079	0.002	"	0.100	ND	78.9	62.2-130	14.9	19.6	
m,p-Xylene	0.159	0.004	"	0.200	ND	79.6	46.5-137	16.9	19.2	
o-Xylene	0.081	0.002	"	0.100	ND	81.4	54.2-134	13.5	17.9	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>60.7</i>		<i>ug/kg</i>	<i>62.5</i>		<i>97.1</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>70.6</i>		<i>"</i>	<i>62.5</i>		<i>113</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>62.6</i>		<i>"</i>	<i>62.5</i>		<i>100</i>	<i>70-130</i>			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 8015M - 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 5C05006 - EPA 3580

Blank (5C05006-BLK1)					Prepared: 03/05/2015 Analyzed: 03/05/2015					
Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
<i>Surrogate: o-Terphenyl</i>	50		"	50.0		99.8	59-131			
LCS (5C05006-BS1)					Prepared: 03/05/2015 Analyzed: 03/05/2015					
Diesel (C10-C28)	990	50	mg/kg	1000		99.4	64-121			
Residual Range Organics (C28-C36)	1100	200	"	1000		113	58-124			
<i>Surrogate: o-Terphenyl</i>	52		"	50.0		105	59-131			
Matrix Spike (5C05006-MS1)		Source: X503038-01			Prepared: 03/05/2015 Analyzed: 03/05/2015					
Diesel (C10-C28)	830	50	mg/kg	1000	23	80.7	53-125			
Residual Range Organics (C28-C36)	910	200	"	1000	18	89.2	47-133			
<i>Surrogate: o-Terphenyl</i>	34		"	50.0		67.7	59-131			
Matrix Spike Dup (5C05006-MSD1)		Source: X503038-01			Prepared: 03/05/2015 Analyzed: 03/05/2015					
Diesel (C10-C28)	810	50	mg/kg	1000	23	78.5	53-125	2.60	20	
Residual Range Organics (C28-C36)	880	200	"	1000	18	86.1	47-133	3.44	20	
<i>Surrogate: o-Terphenyl</i>	33		"	50.0		66.2	59-131			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

Classical Chemistry Parameters - Quality Control
 Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5C05008 - NO PREP										
Duplicate (5C05008-DUP1)		Source: X503041-01			Prepared: 03/05/2015 Analyzed: 03/05/2015					
pH	8.03		pH Units		8.06			0.373	25	
Batch 5C05009 - NO PREP										
Blank (5C05009-BLK1)		Prepared: 03/05/2015 Analyzed: 03/05/2015								
Specific Conductance (EC)	0.00240		mmhos/cm							
Duplicate (5C05009-DUP1)		Source: X503041-01			Prepared: 03/05/2015 Analyzed: 03/05/2015					
Specific Conductance (EC)	0.151		mmhos/cm		0.156			3.12	25	

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - HSR Corvi 2-36

Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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.

Noelle Doyle Mathis, President



March 09, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. March 06, 2015. This project is associated with Origins project number X503054-01.

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 - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W-BH02 @ 22	X503054-01	Soil	March 6, 2015 10:35	03/06/2015 17:34
W-BH02 @ 19	X503054-02	Soil	March 6, 2015 10:40	03/06/2015 17:34
N-BH03 @ 22	X503054-03	Soil	March 6, 2015 12:50	03/06/2015 17:34
N-BH04 @ 18	X503054-04	Soil	March 6, 2015 14:45	03/06/2015 17:34

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 - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X503054

Client: Tasman

Client Project ID: HSR Corvi 2-36

Checklist Completed by: Jeff Smith

Shipped Via: HD

Date/time completed: 3/6/15

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: NA

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

Cooler Number/Temperature: 1 / 58 °C 1 / _____ °C 1 / _____ °C (Describe) _____ °C

Thermometer ID: T603

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

3/6/15
 Date/Time Reviewed

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

W-BH02 @ 22
3/6/2015 10:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503054-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5C06011	03/06/2015	03/07/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 90.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	46.3	5.00	mg/kg	25	5C06012	03/06/2015	03/08/2015	
Benzene	1.56	0.050	"	"	"	"	"	
Toluene	0.235	0.050	"	"	"	"	"	
Ethylbenzene	0.256	0.050	"	"	"	"	"	
Xylenes, total	3.04	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 99.7 % 70-130 " " "
Surrogate: Toluene-d8 106 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.45		pH Units	1	5C06015	03/06/2015	03/06/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0859		mmhos/cm	"	5C06016	"	03/06/2015	
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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 - HSR Corvi 2-36

W-BH02 @ 19
3/6/2015 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503054-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5C06011	03/06/2015	03/07/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 97.6 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	198	5.00	mg/kg	25	5C06012	03/06/2015	03/08/2015	
Benzene	2.51	0.050	"	"	"	"	"	
Toluene	16.9	0.100	"	50	"	"	03/08/2015	
Ethylbenzene	0.856	0.050	"	25	"	"	03/08/2015	
Xylenes, total	10.3	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 112 % 70-130 " " "
Surrogate: Toluene-d8 141 % 70-130 " " " S-04
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.12		pH Units	1	5C06015	03/06/2015	03/06/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.133		mmhos/cm	"	5C06016	"	03/06/2015	
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Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

N-BH03 @ 22
3/6/2015 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503054-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5C06011	03/06/2015	03/07/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 94.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	85.6	5.00	mg/kg	25	5C06012	03/06/2015	03/08/2015	
Benzene	ND	0.050	"	"	"	"	"	
Toluene	0.146	0.050	"	"	"	"	"	
Ethylbenzene	0.105	0.050	"	"	"	"	"	
Xylenes, total	1.58	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 101 % 70-130 " " "
Surrogate: Toluene-d8 126 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 97.0 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.84		pH Units	1	5C06015	03/06/2015	03/06/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0658		mmhos/cm	"	5C06016	"	03/06/2015	
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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

N-BH04 @ 18
3/6/2015 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503054-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5C06011	03/06/2015	03/07/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 93.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	34.3	5.00	mg/kg	25	5C06012	03/06/2015	03/08/2015	
Benzene	0.142	0.050	"	"	"	"	"	
Toluene	0.258	0.050	"	"	"	"	"	
Ethylbenzene	0.194	0.050	"	"	"	"	"	
Xylenes, total	2.26	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 101 % 70-130 " " "
Surrogate: Toluene-d8 109 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.35		pH Units	1	5C06015	03/06/2015	03/06/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0908		mmhos/cm	"	5C06016	"	03/06/2015	
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Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5C06012 - EPA 5030 (soil)

Blank (5C06012-BLK1)

Prepared: 03/06/2015 Analyzed: 03/06/2015

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	58.5		ug/kg	62.5		93.5	70-130			
Surrogate: Toluene-d8	62.7		"	62.5		100	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 - HSR Corvi 2-36

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 5C06012 - EPA 5030 (soil)

LCS (5C06012-BS1)

Prepared: 03/06/2015 Analyzed: 03/06/2015

Benzene	0.111	0.002	mg/kg	0.100		111	77.1-124			
Toluene	0.108	0.002	"	0.100		108	74.5-128			
Ethylbenzene	0.101	0.002	"	0.100		101	66.4-127			
m,p-Xylene	0.216	0.004	"	0.200		108	76.6-124			
o-Xylene	0.099	0.002	"	0.100		98.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59.2		ug/kg	62.5		94.7	70-130			
Surrogate: Toluene-d8	63.7		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	64.9		"	62.5		104	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 - HSR Corvi 2-36

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 5C06012 - EPA 5030 (soil)

Matrix Spike (5C06012-MS1)	Source: X503052-01			Prepared: 03/06/2015 Analyzed: 03/06/2015						
Benzene	0.099	0.002	mg/kg	0.100	ND	98.8	71.8-126			
Toluene	0.099	0.002	"	0.100	ND	99.3	65.1-130			
Ethylbenzene	0.092	0.002	"	0.100	ND	92.2	62.2-130			
m,p-Xylene	0.178	0.004	"	0.200	ND	88.9	46.5-137			
o-Xylene	0.092	0.002	"	0.100	ND	91.6	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	59.5		ug/kg	62.5		95.2	70-130			
Surrogate: Toluene-d8	62.6		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63.4		"	62.5		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 - HSR Corvi 2-36

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 5C06012 - EPA 5030 (soil)

Matrix Spike Dup (5C06012-MSD1)	Source: X503052-01			Prepared: 03/06/2015 Analyzed: 03/06/2015						
Benzene	0.090	0.002	mg/kg	0.100	ND	90.3	71.8-126	8.95	11.3	
Toluene	0.097	0.002	"	0.100	ND	96.8	65.1-130	2.55	15.4	
Ethylbenzene	0.094	0.002	"	0.100	ND	93.6	62.2-130	1.48	19.6	
m,p-Xylene	0.194	0.004	"	0.200	ND	96.8	46.5-137	8.54	19.2	
o-Xylene	0.095	0.002	"	0.100	ND	95.2	54.2-134	3.88	17.9	
Surrogate: 1,2-Dichloroethane-d4	54.4		ug/kg	62.5		87.1	70-130			
Surrogate: Toluene-d8	62.9		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63.8		"	62.5		102	70-130			

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 8015M - 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 5C06011 - EPA 3580

Blank (5C06011-BLK1)

Prepared: 03/06/2015 Analyzed: 03/08/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	53		"	50.0		107	59-131			

LCS (5C06011-BS1)

Prepared: 03/06/2015 Analyzed: 03/06/2015

Diesel (C10-C28)	990	50	mg/kg	1000		99.4	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		100	58-124			
Surrogate: o-Terphenyl	50		"	50.0		99.5	59-131			

Matrix Spike (5C06011-MS1)

Source: X503052-01

Prepared: 03/06/2015 Analyzed: 03/06/2015

Diesel (C10-C28)	1000	50	mg/kg	1000	34	98.3	53-125			
Residual Range Organics (C28-C36)	1000	200	"	1000	37	99.5	47-133			
Surrogate: o-Terphenyl	48		"	50.0		97.0	59-131			

Matrix Spike Dup (5C06011-MSD1)

Source: X503052-01

Prepared: 03/06/2015 Analyzed: 03/06/2015

Diesel (C10-C28)	970	50	mg/kg	1000	34	93.8	53-125	4.47	20	
Residual Range Organics (C28-C36)	980	200	"	1000	37	94.6	47-133	4.94	20	
Surrogate: o-Terphenyl	46		"	50.0		92.3	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 - HSR Corvi 2-36

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5C06015 - NO PREP										
Duplicate (5C06015-DUP1)		Source: X503054-01			Prepared: 03/06/2015 Analyzed: 03/06/2015					
pH	8.37		pH Units		8.45			0.951	25	
Batch 5C06016 - NO PREP										
Blank (5C06016-BLK1)		Prepared: 03/06/2015 Analyzed: 03/06/2015								
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (5C06016-DUP1)		Source: X503054-01			Prepared: 03/06/2015 Analyzed: 03/06/2015					
Specific Conductance (EC)	0.0836		mmhos/cm		0.0859			2.71	25	

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 - HSR Corvi 2-36

Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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



March 11, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. March 11, 2015. This project is associated with Origins project number X503105-01.

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 - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W-BH05 @ 15-17'	X503105-01	Soil	March 10, 2015 11:15	03/11/2015 06:00
NW-BH06 @ 14-16'	X503105-03	Soil	March 10, 2015 14:10	03/11/2015 06:00

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

ORIGINS

LABORATORY, INC

XSCBIS

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

page 1 of 1

Client: Mr. Tasman
 Address: _____
 Telephone Number: _____
 Email Address: _____

Project Manager: Christine Wasko
 Project Name: HSR Corvi 2-36
 Project Number: NO# 887-24899
 Samples Collected By: C. Wasko

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions
				HCl	HNO ₃	Other	Unpreserved	Soil	Other	Analysis	Other		
NW-BH05015-17	3/10/15	1115	2	X				X				8200 BTEX, 602 8015 DEO, 020 PH, EC - TMD, INC	1
NW-BH05022	3/10/15	1145	2	X				X					2
NW-BH06014-16	3/10/15	1410	2	X				X					3
NW-BH06022	3/10/15	1440	1	X				X					4
													5
													6
													7
													8
													9
													10

Relinquished By: Brandon LaVasseur Date: 3-11-15 Time: 6:00
 Relinquished By: _____ Date: _____ Time: _____

Received By: G. Wasko Date: 3/11/15 Time: 0600
 Received By: _____ Date: _____ Time: _____

Turnaround Time: 24 Hr
 24 Hr
 Same Day
 48 Hr
 72 Hr

Date Results Needed: _____

4.90

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 - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X503105 Client: Tasman
 Client Project ID: HSR Corvi 2-36
 Checklist Completed by: Jen Pellegrini Shipped Via: HD
 Date/time completed: 3/11/15 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 / 4.9 °C _____ °C _____ °C (Describe) _____ °C
 Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 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"/>			pH
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):				

⁽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.

Jen Pellegrini Reviewed by (Project Manager) 3/11/15 Date/Time Reviewed

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

W-BH05 @ 15-17'
3/10/2015 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503105-01 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.002	mg/kg	1	5C10016	03/11/2015	03/11/2015	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"	
Surrogate: Toluene-d8	113 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.7 %	70-130			"	"	"	

pH in Soil by EPA 9045D

pH	8.93		pH Units	1	5C11005	03/11/2015	03/11/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0912		mmhos/cm	"	5C11004	03/11/2015	03/11/2015	
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TPH-Carbon Chain by EPA Method 8015C

Gasoline (C6-C10)	ND	50	mg/kg	1	5C10015	03/10/2015	03/11/2015	
Diesel (C10-C28)	ND	50	"	"	"	"	"	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl	122 %	65-146			"	"	"	
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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 - HSR Corvi 2-36

NW-BH06 @ 14-16'
3/10/2015 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503105-03 (Soil)

BTEX by EPA 8260C

Benzene	1.06	0.498	mg/kg	250	5C10016	03/11/2015	03/11/2015	
Toluene	24.3	0.498	"	"	"	"	"	
Ethylbenzene	3.05	0.498	"	"	"	"	"	
Xylenes, total	43.7	0.498	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	118 %	70-130			"	"	"	
Surrogate: Toluene-d8	117 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"	

pH in Soil by EPA 9045D

pH	8.98		pH Units	1	5C11005	03/11/2015	03/11/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.147		mmhos/cm	"	5C11004	03/11/2015	03/11/2015	
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TPH-Carbon Chain by EPA Method 8015C

Gasoline (C6-C10)	420	50	mg/kg	1	5C10015	03/10/2015	03/11/2015	
Diesel (C10-C28)	150	50	"	"	"	"	"	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl	109 %	65-146			"	"	"	
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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 - HSR Corvi 2-36

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 5C10016 - EPA 5030 (soil)

Matrix Spike (5C10016-MS1)	Source: X503102-01			Prepared: 03/10/2015 Analyzed: 03/10/2015						
Benzene	0.016	0.002	mg/kg	0.100	ND	15.8	71.8-126			QM-07
Toluene	0.016	0.002	"	0.100	ND	16.1	65.1-130			QM-07
Ethylbenzene	0.011	0.002	"	0.100	ND	11.2	62.2-130			QM-07
m,p-Xylene	0.026	0.004	"	0.200	0.001	12.6	46.5-137			QM-07
o-Xylene	0.013	0.002	"	0.100	0.001	11.8	54.2-134			QM-07
Surrogate: 1,2-Dichloroethane-d4	72		ug/kg	62.5		115	70-130			
Surrogate: Toluene-d8	67		"	62.5		108	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		108	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 - HSR Corvi 2-36

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 5C10016 - EPA 5030 (soil)

Matrix Spike Dup (5C10016-MSD1)	Source: X503102-01			Prepared: 03/10/2015 Analyzed: 03/10/2015						
Benzene	0.069	0.002	mg/kg	0.100	ND	69.3	71.8-126	126	11.3	QM-07
Toluene	0.066	0.002	"	0.100	ND	66.3	65.1-130	122	15.4	QM-07
Ethylbenzene	0.040	0.002	"	0.100	ND	39.6	62.2-130	112	19.6	QM-07
m,p-Xylene	0.088	0.004	"	0.200	0.001	43.3	46.5-137	107	19.2	QM-07
o-Xylene	0.045	0.002	"	0.100	0.001	43.6	54.2-134	110	17.9	QM-07
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		112	70-130			
Surrogate: Toluene-d8	68		"	62.5		109	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		109	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 - HSR Corvi 2-36

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 8015M - Quality Control
Origins Laboratory, Inc.

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

Batch 5C10015 - EPA 3580

Blank (5C10015-BLK1)

Prepared: 03/10/2015 Analyzed: 03/10/2015

Gasoline (C6-C10)	ND	50	mg/kg							
Diesel (C10-C28)	ND	50	"							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	44.9		"	50.0		89.9	65-146			

LCS (5C10015-BS1)

Prepared: 03/10/2015 Analyzed: 03/10/2015

Gasoline (C6-C10)	1000	50	mg/kg	1000		105	66.7-119			
Diesel (C10-C28)	1100	50	"	1000		107	70.1-127			
Residual Range Organics (C28-C36)	690	200	"	1000		68.7	54.5-139			
Surrogate: o-Terphenyl	52.8		"	50.0		106	65-146			

Matrix Spike (5C10015-MS1)

Source: X503102-01

Prepared: 03/10/2015 Analyzed: 03/10/2015

Gasoline (C6-C10)	840	50	mg/kg	1000	ND	84.0	56.4-132			
Diesel (C10-C28)	910	50	"	1000	24	88.4	57.4-138			
Residual Range Organics (C28-C36)	560	200	"	1000	20	53.9	47.7-129			
Surrogate: o-Terphenyl	33.0		"	50.0		65.9	65-146			

Matrix Spike Dup (5C10015-MSD1)

Source: X503102-01

Prepared: 03/10/2015 Analyzed: 03/10/2015

Gasoline (C6-C10)	830	50	mg/kg	1000	ND	82.9	56.4-132	1.27	22	
Diesel (C10-C28)	880	50	"	1000	24	85.2	57.4-138	3.64	18.3	
Residual Range Organics (C28-C36)	550	200	"	1000	20	52.6	47.7-129	2.21	30.1	
Surrogate: o-Terphenyl	31.8		"	50.0		63.7	65-146			S-04

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 - HSR Corvi 2-36

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5C11004 - NO PREP										
Blank (5C11004-BLK1)					Prepared: 03/11/2015 Analyzed: 03/11/2015					
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (5C11004-DUP1)		Source: X503105-01			Prepared: 03/11/2015 Analyzed: 03/11/2015					
Specific Conductance (EC)	0.0856		mmhos/cm		0.0912			6.33	25	
Batch 5C11005 - NO PREP										
Duplicate (5C11005-DUP1)		Source: X503105-01			Prepared: 03/11/2015 Analyzed: 03/11/2015					
pH	8.97		pH Units		8.93			0.447	25	

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 - HSR Corvi 2-36

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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.

September 03, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. August 21, 2015. This project is associated with Origins project number ZT013TE-05.

The analytical results in the following report were analyzed under the guidelines of EPA Method 8210. These methods are identified as follows: MS4 are defined in EPA 8210-A, MS4 are defined in EPA 8210-B, MS4 are defined in EPA 8210-C, MS4 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 in the attached Chain of Custody. As such, this report shall not be reproduced in full, without the written approval of Origins Laboratory.

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

Any holding times, 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.
303.333.5322
info@originslabinc.com



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CROSS R; x; R; qC; R; " ORp

SaXj le IB	Laboratory IB	Matri'	Bate SaXj led	Bate Received
: H50 9 56-51U	z T013TE-05	Soil	August 2T, 205T 50[00	017217205T 5T[3T
: H55 9 51-20U	z T013TE-02	Soil	August 2T, 205T 55[3T	017217205T 5T[3T

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.

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 61EE " ecos Street, Nnit C
 Benver CO 10255

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Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS08359

Client: Tasman
 Client Project ID: HSR Corvi 2-36

Checklist Completed by: Jeff Smith
 Date/time completed: 8/31/15

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

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

Cooler Number/Temperature: 1 / 4.2 °c _____ / _____ °c _____ / _____ °c (Describe)

Thermometer ID: T003

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

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

Jeff Smith
 Reviewed by (Project Manager)

8/31/15
 Date/Time Reviewed

Origins Laboratory, Inc.



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

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61EE " ecos Street, Nnit C

Benver CO 10255

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" rowect[KMG - HSR Corvi 2-36

BH10 @ 16-18'

8/25/2015 10:00:00AM

Analyte	Result	Rej orting LiX it	Nnits	Bilution	: atch	" rej ared	AnalyPed	q otes
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Origins Laboratory, Inc.
X508359-01 (Soil)

DRO/RRO by EPA8015C

Biesel (C50-C21)	qB	T0	Xg7@	5	T10500J	0E057205T	0E057205T
Residual Range Organics (C21-C36)	qB	200	8	8	8	8	8

guro: ate" o-Terphenyl 00.%S 59-131 " " 7

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	197	T.00	Xg7@	2T	T105001	0E057205T	0E057205T
: enPene	qB	0.0T0	8	8	8	8	8
poluene	qB	0.0T0	8	8	8	8	8
; thylbenPene	0.300	0.0T0	8	8	8	8	8
z ylenes, total	1.92	0.0T0	8	8	8	8	8

guro: ate" 1D-4 ichloroethane-d6 11, S 0, -13, " " 7
guro: ate" Toluene-d% 113 S 0, -13, " " 7
guro: ate" 6-Bromofluorobenzene 1, 8 S 0, -13, " " 7

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.

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Benver CO 10255

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" rowect[KMG - HSR Corvi 2-36

BH11 @ 18-20'

8/25/2015 11:35:00AM

Analyte	Result	Rej orting LiX it	Nnits	Bilution	: atch	" rej ared	AnalyPed	q otes
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Origins Laboratory, Inc.
X508359-02 (Soil)

DRO/RRO by EPA8015C

Biesel (C50-C21)	qB	T0	Xg7@	5	T10500J	0E057205T	0E057205T
Residual Range Organics (C21-C36)	qB	200	8	8	8	8	8

guro: ate" o-Terphenyl 1D, S 59-131 " " 7

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	7.24	T.00	Xg7@	2T	T105001	0E057205T	0E057205T
: enPene	qB	0.0T0	8	8	8	8	8
poluene	qB	0.0T0	8	8	8	8	8
; thylbenPene	qB	0.0T0	8	8	8	8	8
z ylenes, total	qB	0.0T0	8	8	8	8	8

guro: ate" 1D-4 ichloroethane-d6 1, %S 0, -13, " " 7
guro: ate" Toluene-d% 1, 1 S 0, -13, " " 7
guro: ate" 6-Bromofluorobenzene 1, 5 S 0, -13, " " 7

Origins Laboratory, Inc.



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" rowect[KMG - HSR Corvi 2-36

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

Analyte	Result	Rej orting LiX it	Nnits	Sj i@ Level	Source Result	%R; C	%R; C LiX its	R" B	R" B LiX it	q otes
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Batch 5101008 - EPA 5030 (soil)

Blank (5101008-BLK1)

" rej ared[0E05Z05T AnalyPed[0E05Z05T

Gasoline Range Hydrocarbons	qB	0.200	Xg7@							
: enPene	qB	0.002	8							
poluene	qB	0.002	8							
; thylbenPene	qB	0.002	8							
z ylenes, total	qB	0.002	8							
guro: ate" 1D-4 ichloroethane-d6	8, .%		u: /k:	8L.5	90.L		0, -13,			
guro: ate" Toluene-d%	81.,		7	8L.5	90.5		0, -13,			
guro: ate" 6-Bromofluorobenzene	81.L		7	8L.5	9%,		0, -13,			

Origins Laboratory, Inc.



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" rowect[KMG - HSR Corvi 2-36

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

Analyte	Result	Rej orting LiX it	Nnits	Sj i@ Level	Source Result	%R; C	%R; C LiX its	R" B	R" B LiX it	q otes
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Batch 5101008 - EPA 5030 (soil)

LCS (5101008-BS1)

" rej ared[0E705205T AnalyPed[0E705205T

: enPene	0.503	0.002	Xg7@	0.500	503	JJ.5-52F				
poluene	0.502	0.002	8	0.500	502	JF.T-521				
; thylbenPene	0.503	0.002	8	0.500	503	66.F-52J				
X, j -zylene	0.205	0.00F	8	0.200	505	J6.6-52F				
o-zylene	0.503	0.002	8	0.500	503	J6.6-52F				
guro: ate" 1D-4 ichloroethane-d6	81.9%		u: /k:	8L.5	99.9%	0, -13,				
guro: ate" Toluene-d%	81.9%		7	8L.5	99.9%	0, -13,				
guro: ate" 6-Bromofluorobenzene	81.9%		7	8L.5	99.9%	0, -13,				

Origins Laboratory, Inc.



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" rowect[KMG - HSR Corvi 2-36

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

Analyte	Result	Rej orting LiX it	Nnits	Sj i@ Level	Source Result	%R; C	%R; C LiX its	R" B	R" B LiX it	q otes
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Batch 5101008 - EPA 5030 (soil)

Matrix Spike (5101008-MS1)	Source: X508367-01			" rej ared[0E705205T AnalyPed[0E705205T						
: enPene	0.505	0.002	Xg7@	0.500	0.0006	500	J5.1-526			
poluene	0.50J	0.002	8	0.500	0.00J	500	6T.5-530			
; thylbenPene	0.50J	0.002	8	0.500	0.00F	503	62.2-530			
X, j -zylene	0.201	0.00F	8	0.200	0.053	EJ.J	F6.T-53J			
o-zylene	0.50T	0.002	8	0.500	0.006	E1.3	TF.2-53F			
guro: ate" 1D-4 ichloroethane-d6	86.0		u: /k:	8L.5		1, 6	0, -13,			
guro: ate" Toluene-d%	81.1		7	8L.5		90.%	0, -13,			
guro: ate" 6-Bromofluorobenzene	8L.0		7	8L.5		1, ,	0, -13,			

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" rowect[KMG - HSR Corvi 2-36

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

Analyte	Result	Rej orting LiX it	Nnits	Sj i@ Level	Source Result	%R; C	%R; C LiX its	R" B	R" B LiX it	q otes
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Batch 5101008 - EPA 5030 (soil)

Matrix Spike Dup (5101008-MSD1)	Source: X508367-01			" rej ared[0E705205T AnalyPed[0E705205T						
: enPene	0.0T5	0.002	Xg7@	0.0T00	0.0006	505	J5.1-526	6T.T	55.3	QR-02
poluene	0.0T3	0.002	8	0.0T00	0.00J	E3.J	6T.5-530	66.T	5T.F	QR-02
; thylbenPene	0.0F1	0.002	8	0.0T00	0.00F	11.3	62.2-530	J6.0	5E.6	QR-02
X, j -zylene	0.505	0.00F	8	0.500	0.053	11.5	F6.T-53J	6E.T	5E.2	QR-02
o-zylene	0.0T0	0.002	8	0.0T00	0.006	1J.0	TF.2-53F	J5.0	5J.E	QR-02
guro: ate" 1D-4 ichloroethane-d6	8%.1		u: /k:	8L.5		1, 9	0, -13,			
guro: ate" Toluene-d%	83.5		7	8L.5		1, D	0, -13,			
guro: ate" 6-Bromofluorobenzene	8L.%		7	8L.5		1,,	0, -13,			

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" rowect[KMG - HSR Corvi 2-36

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

Analyte	Result	Rej orting LiX it	Nnits	Sj i@ Level	Source Result	%R; C	%R; C LiX its	R" B	R" B LiX it	q otes
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Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Rej orting LiX it	Nnits	Sj i@ Level	Source Result	%R; C	%R; C LiX its	R" B	R" B LiX it	q otes
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Batch 5101007 - EPA 3580

Blank (5101007-BLK1)

" rej aredf[0E05Z205T AnalyPed[0E05Z205T

Biesel (C50-C21)

qB

T0

Xg7@

Residual Range Organics (C21-C36)

qB

200

8

guro: ate" o-Terphenyl

81

7

5 ..

100

59-131

LCS (5101007-BS1)

" rej aredf[0E05Z205T AnalyPed[0E05Z205T

Biesel (C50-C21)

E00

T0

Xg7@

5000

1E.T

6F-525

Residual Range Organics (C21-C36)

5000

200

8

5000

500

T1-52F

guro: ate" o-Terphenyl

53

7

5 ..

1, 5

59-131

Matrix Spike (5101007-MS1)

Source: X508367-01

" rej aredf[0E05Z205T AnalyPed[0E05Z205T

Biesel (C50-C21)

1F0

T0

Xg7@

5000

63

JJ.3

T3-52T

Residual Range Organics (C21-C36)

ET0

200

8

5000

J2

1J.T

FJ-533

guro: ate" o-Terphenyl

60

7

5 ..

93.6

59-131

Matrix Spike Dup (5101007-MSD1)

Source: X508367-01

" rej aredf[0E05Z205T AnalyPed[0E05Z205T

Biesel (C50-C21)

120

T0

Xg7@

5000

63

JT.6

T3-52T

2.05

20

Residual Range Organics (C21-C36)

E00

200

8

5000

J2

12.3

FJ-533

T.6T

20

guro: ate" o-Terphenyl

68

7

5 ..

90.%

59-131

Origins Laboratory, Inc.



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" rowect[KMG - HSR Corvi 2-36

Notes and Definitions

QR-02 phe R" B result e' ceeded the QC control liX itsW. However, both j ercent recoveries mere accej table. SaXj le results for the QC batch mere accej ted based on j ercent recoveries and coXj leteness of QC data.

q B Analyte q Op B; p; Cp; B at or above the rej orting liX it

R" B Relative " ercent Bifference

All soil results are rej orted at a met meight 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.



March 12, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - 88724899

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. March 11, 2015. This project is associated with Origins project number X503127-01.

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: 88724899
Project: KMG - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W-BH05	X503127-01	Water	March 11, 2015 14:00	03/11/2015 17:00
NW-BH06	X503127-02	Water	March 11, 2015 14:15	03/11/2015 17:00
N-BH04	X503127-03	Water	March 11, 2015 13:45	03/11/2015 17:00
N-BH03	X503127-04	Water	March 11, 2015 14:45	03/11/2015 17:00
W-BH02	X503127-05	Water	March 11, 2015 14:30	03/11/2015 17:00
S-BH01	X503127-06	Water	March 11, 2015 13:30	03/11/2015 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: 88724899
 Project: KMG - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS03127

Client: Tasman

Client Project ID: HSR Corvi 2-36

Checklist Completed by: Jeff Smith

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

Date/time completed: 3/11/15

Airbill #: NA

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

Cooler Number/Temperature: 1 / 10.2 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T103

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

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

[Signature]
 Reviewed by (Project Manager)

3-11-15
 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: 88724899
 Project: KMG - HSR Corvi 2-36

W-BH05

3/11/2015 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503127-01 (Water)

BTEX by EPA 8260C

Benzene	75.5	1.0	ug/L	1	5C11013	03/11/2015	03/11/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	65.4	1.0	"	"	"	"	"	
Xylenes, total	346	10.0	"	10	"	"	03/11/2015	
Surrogate: 1,2-Dichloroethane-d4	106 %	87.3-113			"	"	03/11/2015	
Surrogate: Toluene-d8	97.5 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	111 %	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: 88724899
 Project: KMG - HSR Corvi 2-36

NW-BH06
3/11/2015 2:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503127-02 (Water)

BTEX by EPA 8260C

Benzene	13900	500	ug/L	500	5C11013	03/11/2015	03/11/2015	
Toluene	20500	500	"	"	"	"	"	
Ethylbenzene	760	50.0	"	50	"	"	03/11/2015	
Xylenes, total	11800	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.8 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	109 %	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: 88724899
 Project: KMG - HSR Corvi 2-36

N-BH04

3/11/2015 1:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503127-03 (Water)

BTEX by EPA 8260C

Benzene	334	50.0	ug/L	50	5C11013	03/11/2015	03/11/2015	
Toluene	3700	50.0	"	"	"	"	"	
Ethylbenzene	722	50.0	"	"	"	"	"	
Xylenes, total	9660	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.3 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	111 %	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: 88724899
 Project: KMG - HSR Corvi 2-36

N-BH03

3/11/2015 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503127-04 (Water)

BTEX by EPA 8260C

Benzene	720	50.0	ug/L	50	5C11013	03/11/2015	03/11/2015	
Toluene	4140	50.0	"	"	"	"	"	
Ethylbenzene	258	50.0	"	"	"	"	"	
Xylenes, total	4380	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.1 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	109 %	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: 88724899
 Project: KMG - HSR Corvi 2-36

W-BH02

3/11/2015 2:30:00PM

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

Origins Laboratory, Inc.
X503127-05 (Water)

BTEX by EPA 8260C

Benzene	1350	50.0	ug/L	50	5C11013	03/11/2015	03/11/2015	
Toluene	944	50.0	"	"	"	"	"	
Ethylbenzene	144	50.0	"	"	"	"	"	
Xylenes, total	1900	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	95.9 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	109 %	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: 88724899
 Project: KMG - HSR Corvi 2-36

S-BH01

3/11/2015 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X503127-06 (Water)

BTEX by EPA 8260C

Benzene	3.4	1.0	ug/L	1	5C11013	03/11/2015	03/11/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	4.2	1.0	"	"	"	"	"	
Xylenes, total	23.6	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	97.9 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	110 %	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: 88724899
 Project: KMG - HSR Corvi 2-36

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 5C11013 - EPA 5030B (Water)

Blank (5C11013-BLK1)

Prepared: 03/11/2015 Analyzed: 03/11/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	106		87.3-113			
Surrogate: Toluene-d8	60		"	62.5	96.5		90.9-108			
Surrogate: 4-Bromofluorobenzene	70		"	62.5	112		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: 88724899
 Project: KMG - HSR Corvi 2-36

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 5C11013 - EPA 5030B (Water)

LCS (5C11013-BS1)

Prepared: 03/11/2015 Analyzed: 03/11/2015

Benzene	54.3	1.0	ug/L	50.0		109	75-126			
Toluene	50.3	1.0	"	50.0		101	78.7-126			
Ethylbenzene	49.0	1.0	"	50.0		98.1	80-130			
m,p-Xylene	99.2	2.0	"	100		99.2	77.2-133			
o-Xylene	50.9	1.0	"	50.0		102	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.0	87.3-113			
Surrogate: Toluene-d8	60		"	62.5		96.2	90.9-108			
Surrogate: 4-Bromofluorobenzene	70		"	62.5		111	88.6-111			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Christine Wasko
 Project Number: 88724899
 Project: KMG - HSR Corvi 2-36

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 5C11013 - EPA 5030B (Water)

Matrix Spike (5C11013-MS1)	Source: X503125-01			Prepared: 03/11/2015 Analyzed: 03/11/2015						
Benzene	49.2	1.0	ug/L	50.0	ND	98.3	74-130			
Toluene	45.1	1.0	"	50.0	ND	90.2	73-131			
Ethylbenzene	41.5	1.0	"	50.0	ND	82.9	76-132			
m,p-Xylene	85.5	2.0	"	100	0.3	85.2	69-139			
o-Xylene	45.5	1.0	"	50.0	ND	91.1	74-131			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.1	87.3-113			
Surrogate: Toluene-d8	60		"	62.5		95.7	90.9-108			
Surrogate: 4-Bromofluorobenzene	70		"	62.5		112	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: 88724899
 Project: KMG - HSR Corvi 2-36

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 5C11013 - EPA 5030B (Water)

Matrix Spike Dup (5C11013-MSD1)	Source: X503125-01			Prepared: 03/11/2015 Analyzed: 03/11/2015						
Benzene	42.2	1.0	ug/L	50.0	ND	84.5	74-130	15.2	20	
Toluene	38.3	1.0	"	50.0	ND	76.7	73-131	16.2	20	
Ethylbenzene	34.6	1.0	"	50.0	ND	69.2	76-132	18.0	20	QM-07
m,p-Xylene	71.9	2.0	"	100	0.3	71.6	69-139	17.3	20	
o-Xylene	39.5	1.0	"	50.0	ND	79.0	74-131	14.2	20	
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	87.3-113			
Surrogate: Toluene-d8	60		"	62.5		95.6	90.9-108			
Surrogate: 4-Bromofluorobenzene	69		"	62.5		110	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: 88724899
Project: KMG - HSR Corvi 2-36

Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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

September 15, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. September 08, 2015. This project is associated with Origins project number X509103-01.

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 - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	X509103-01	Water	September 8, 2015 13:30	09/08/2015 16:30
BH02	X509103-02	Water	September 8, 2015 13:25	09/08/2015 16:30
BH03	X509103-03	Water	September 8, 2015 13:36	09/08/2015 16:30
BH04	X509103-04	Water	September 8, 2015 13:41	09/08/2015 16:30
BH05	X509103-05	Water	September 8, 2015 13:48	09/08/2015 16:30
BH06	X509103-06	Water	September 8, 2015 13:56	09/08/2015 16:30
BH07	X509103-07	Water	September 8, 2015 14:33	09/08/2015 16:30
BH08	X509103-08	Water	September 8, 2015 14:31	09/08/2015 16:30
BH09	X509103-09	Water	September 8, 2015 14:39	09/08/2015 16:30
BH10	X509103-10	Water	September 8, 2015 13:57	09/08/2015 16:30

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 - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH11	X509103-11	Water	September 8, 2015 14:06	09/08/2015 16:30

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 - HSR Corvi 2-36

www.originslaboratory.com

X509103

ORIGINS
 LABORATORY, INC

page 1 of 2

Client: Tasman Geosciences
 Address: [Blank]
 Telephone Number: 352 262 9910
 Email Address: bobcornez@tasmangeo.com

Project Manager: Bob Cornez
 Project Name: HSR Corvi 2-36
 Project Number: [Blank]
 Samples Collected By: Kate Forsmark

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix				Analysis	Sample Instructions		
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #	Other					
BH01	9/8/15	1330	3	X	X	X	X	X	X	X	X					
BH02		1325	1	X	X	X	X	X	X	X	X					
BH03		1336	1	X	X	X	X	X	X	X	X					
BH04		1341	1	X	X	X	X	X	X	X	X					
BH05		1348	1	X	X	X	X	X	X	X	X					
BH06		1356	1	X	X	X	X	X	X	X	X					
BH07		1433	1	X	X	X	X	X	X	X	X					
BH08		1431	1	X	X	X	X	X	X	X	X					
BH09		1439	1	X	X	X	X	X	X	X	X					
BH10		1357	1	X	X	X	X	X	X	X	X					
Relinquished By: <i>Sgt J...</i>	Date: 9/8/15	Time: 1600		Received By: <i>[Signature]</i>	Date: 9.8.15	Time: 1630		Received By: <i>[Signature]</i>	Date: [Blank]	Time: [Blank]		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>				

Date Results Needed: [Blank]

4.1

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

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X509103 Client: Tasman
 Client Project ID: KMG - HSR Corvi 2-36
 Checklist Completed by: Jeff Smith Shipped Via: Pickup
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Date/time completed: 9/2/15 Airbill #: N/A
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1/4/1 °C 1 °C 1 °C 1 °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⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		Y		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	Y			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	X			HCL
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) 9/2/15 Date/Time Reviewed

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH01
9/8/2015 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-01 (Water)

BTEX by EPA 8260C

Benzene	7.0	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	6.0	1.0	"	"	"	"	"	
Xylenes, total	3.3	1.0	"	"	"	"	"	

%uroSateg-:13 ichloroethane317	-0- 6	873 1-			"	"	2	
%uroSategToluene318	-00 6	8D3 - D			"	"	2	
%uroSateg734romofluorobenzene	-00 6	873 - 7			"	"	2	

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 - HSR Corvi 2-36

BH02

9/8/2015 1:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-02 (Water)

BTEX by EPA 8260C

Benzene	3090	50.0	ug/L	50	5110009	09/10/2015	09/11/2015	
Toluene	2700	50.0	"	"	"	"	"	
Ethylbenzene	131	1.0	"	1	"	"	09/10/2015	
Xylenes, total	2010	50.0	"	50	"	"	09/11/2015	
<i>%uroSateg-:13 ichloroethane317</i>	<i>8/.7 6</i>	<i>873 1-</i>			<i>"</i>	<i>"</i>	<i>059 0910- D</i>	
<i>%uroSategToluene318</i>	<i>- 0/ 6</i>	<i>8D3 - D</i>			<i>"</i>	<i>"</i>	<i>2</i>	
<i>%uroSateg734romofluorobenzene</i>	<i>- 00 6</i>	<i>873 - 7</i>			<i>"</i>	<i>"</i>	<i>2</i>	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH03

9/8/2015 1:36:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-03 (Water)

BTEX by EPA 8260C

Benzene	158	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	220	10.0	"	10	"	"	09/11/2015	
Ethylbenzene	12.8	1.0	"	1	"	"	09/10/2015	
Xylenes, total	297	1.0	"	"	"	"	"	
<i>%uroSateg-:13 ichloroethane317</i>	-00 6	873 1-			"	"	2	
<i>%uroSategToluene318</i>	-0/ 6	803 -D			"	"	2	
<i>%uroSateg734romofluorobenzene</i>	-0- 6	873 -7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH04

9/8/2015 1:41:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-04 (Water)

BTEX by EPA 8260C

Benzene	1000	100	ug/L	100	5110009	09/10/2015	09/14/2015	
Toluene	6590	100	"	"	"	"	"	
Ethylbenzene	575	100	"	"	"	"	"	
Xylenes, total	8070	100	"	"	"	"	"	
<i>%uroSateg-:13 ichloroethane317</i>	-016	873-1-			"	"	0590910-D	
<i>%uroSategToluene318</i>	--06	803-D			"	"	2	
<i>%uroSateg734romofluorobenzene</i>	-016	873-7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH05

9/8/2015 1:48:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-05 (Water)

BTEX by EPA 8260C

Benzene	39.7	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	1.3	1.0	"	"	"	"	"	
Ethylbenzene	4.5	1.0	"	"	"	"	"	
Xylenes, total	10.9	1.0	"	"	"	"	"	

%uroSateg-:13 ichloroethane317	58." 6	873 1-			"	"	2	
%uroSategToluene318	- 0- 6	8D3 - D			"	"	2	
%uroSateg734romofluorobenzene	- 01 6	873 - 7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH06

9/8/2015 1:56:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-06 (Water)

BTEX by EPA 8260C

Benzene	4480	50.0	ug/L	50	5110009	09/10/2015	09/14/2015	
Toluene	6010	50.0	"	"	"	"	"	
Ethylbenzene	95.3	1.0	"	1	"	"	09/10/2015	
Xylenes, total	3770	50.0	"	50	"	"	09/14/2015	
%uroSateg-:13 ichloroethane317	85.B 6	873 1-			"	"	059 0910- D	
%uroSategToluene318	- 01 6	8D3 - D			"	"	2	
%uroSateg734romofluorobenzene	55./ 6	873 - 7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH07
9/8/2015 2:33:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-07 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5110009	09/10/2015	09/11/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
<i>%uroSateg- :13 ichloroethane317</i>	- 0- 6	873 1-			"	"	059 0910- D	
<i>%uroSategToluene318</i>	- 00 6	8D3 - D			"	"	2	
<i>%uroSateg734romofluorobenzene</i>	- 0B 6	873 - 7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH08
9/8/2015 2:31:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-08 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

%uroSateg-:13 ichloroethane317	58/ 6	873 1-			"	"	2	
%uroSategToluene318	-00 6	8D3 -D			"	"	2	
%uroSateg734romofluorobenzene	-01 6	873 -7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH09
9/8/2015 2:39:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-09 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

%uroSateg-:13 ichloroethane317	55.- 6	873 1-			"	"	2	
%uroSategToluene318	-00 6	8D3 -D			"	"	2	
%uroSateg734romofluorobenzene	-0- 6	873 -7			"	"	2	

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH10
9/8/2015 1:57:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-10 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	2.7	1.0	"	"	"	"	"	

%chloroethane	-016	873-1-			"	"	2	
%Toluene	-0-6	8D3-D			"	"	2	
%p-tromofluorobenzene	-0-6	873-7			"	"	2	

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH11
9/8/2015 2:06:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509103-11 (Water)

BTEX by EPA 8260C

Benzene	1.7	1.0	ug/L	1	5110009	09/10/2015	09/10/2015	
Toluene	2.6	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	

%uroSateg-:13 ichloroethane317	-0- 6	873 1-			"	"	2	
%uroSategToluene318	-0- 6	8D3 - D			"	"	2	
%uroSateg734romofluorobenzene	-0- 6	873 - 7			"	"	2	

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5110009 - EPA 5030B (Water)

Blank (5110009-BLK1)

Prepared: 09/10/2015 Analyzed: 09/10/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
<i>%uroSateg- :13 ichloroethane3d7</i>	<i>/B</i>			<i>2</i>	<i>/1.D</i>	<i>-00</i>	<i>87%- 1-</i>			
<i>%uroSategToluene3d8</i>	<i>/B</i>			<i>2</i>	<i>/1.D</i>	<i>-0-</i>	<i>8C%- - E</i>			
<i>%uroSateg734romofluorobenzene</i>	<i>/B</i>			<i>2</i>	<i>/1.D</i>	<i>-0-</i>	<i>87%- - 7</i>			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5110009 - EPA 5030B (Water)

LCS (5110009-BS1)

Prepared: 09/10/2015 Analyzed: 09/10/2015

Benzene	43.6	1.0	ug/L	50.0		87.1	75-126			
Toluene	44.8	1.0	"	50.0		89.6	78.7-126			
Ethylbenzene	46.3	1.0	"	50.0		92.5	80-130			
m,p-Xylene	92.1	2.0	"	100		92.1	77.2-133			
o-Xylene	45.4	1.0	"	50.0		90.9	77.9-126			
%uroSateg- :13 ichloroethane3d7	/B		2	/1.D		-0-	87:- 1-			
%uroSategToluene3d8	/7		2	/1.D		-01	8E:- -E			
%uroSateg73dromofluorobenzene	/B		2	/1.D		-00	87:- -7			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5110009 - EPA 5030B (Water)

Matrix Spike (5110009-MS1)	Source: X509101-02			Prepared: 09/10/2015 Analyzed: 09/10/2015						
Benzene	41.4	1.0	ug/L	50.0	ND	82.8	74-130			
Toluene	41.2	1.0	"	50.0	ND	82.4	73-131			
Ethylbenzene	41.0	1.0	"	50.0	ND	81.9	76-132			
m,p-Xylene	82.0	2.0	"	100	ND	82.0	69-139			
o-Xylene	41.0	1.0	"	50.0	ND	82.0	74-131			
%uroSateg- :13 ichloroethane3t7	D5		2	/ 1.D		57.0	87:- 1-			
%uroSategToluene3t8	/ B		2	/ 1.D		- 01	8E:- - E			
%uroSateg73romofluorobenzene	/ 1		2	/ 1.D		- 00	87:- - 7			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

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 5110009 - EPA 5030B (Water)

Matrix Spike Dup (5110009-MSD1)	Source: X509101-02			Prepared: 09/10/2015 Analyzed: 09/10/2015						
Benzene	48.3	1.0	ug/L	50.0	ND	96.7	74-130	15.4	20	
Toluene	47.7	1.0	"	50.0	ND	95.4	73-131	14.6	20	
Ethylbenzene	46.8	1.0	"	50.0	ND	93.6	76-132	13.2	20	
m,p-Xylene	93.1	2.0	"	100	ND	93.1	69-139	12.6	20	
o-Xylene	47.2	1.0	"	50.0	ND	94.3	74-131	14.0	20	
%uroSateg- :13 ichloroethane3t7	/0		2	/1.D		5L/	87:- 1-			
%uroSategToluene3t8	/B		2	/1.D		- 0-	8L:- - L			
%uroSateg73romofluorobenzene	/7		2	/1.D		- 01	87:- - 7			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Corvi 2-36

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



December 1p, 201p

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. p December 08, 2015. This project is associated with Origins project number 95121zz-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows: EPA 821-A are defined in EPA 821-A, EPA 821-B are defined in 40 CFR part 136 and EPA 821-C 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 in 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 EPA 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
68 : : ecos Street, Unit C
penver CO 80211

Bob CorneE
; roect Number[]noneD
; roect[KMG - HSR Corvi 2-36

CROSS RPFPRPNCP RP; ORT

Samj le lp	Laboratory lp	Matrix	p ate Samj led	p ate Received
S-BH01	95121zz-01	4 ater	pecember 8, 2015 1z[12	12/08/2015 15[2:
4 -BH02	95121zz-02	4 ater	pecember 8, 2015 13[28	12/08/2015 15[2:
N-BH03	95121zz-03	4 ater	pecember 8, 2015 13[z0	12/08/2015 15[2:
N-BH0z	95121zz-0z	4 ater	pecember 8, 2015 13[50	12/08/2015 15[2:
4 -BH05	95121zz-05	4 ater	pecember 8, 2015 13[5z	12/08/2015 15[2:
N4 -BH06	95121zz-06	4 ater	pecember 8, 2015 1z[02	12/08/2015 15[2:
BH07	95121zz-07	4 ater	pecember 8, 2015 12[z1	12/08/2015 15[2:
BH08	95121zz-08	4 ater	pecember 8, 2015 12[52	12/08/2015 15[2:
BH0:	95121zz-0:	4 ater	pecember 8, 2015 12[z2	12/08/2015 15[2:
BH10	95121zz-10	4 ater	pecember 8, 2015 1z[z3	12/08/2015 15[2:

Origins Laboratory, Inc.



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penver CO 80211

Bob CorneE

; rowect Number[]noneD

; rowect[KMG - HSR Corvi 2-36

CROSS RPFPRPNCP RP; ORT

Samj le lp	Laboratory lp	Matrix	p ate Samj led	p ate Received
BH11	95121zz-11	4 ater	peceember 8, 2015 1z[32	12/08/2015 15[2:

Origins Laboratory, Inc.



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Tasman Geosciences
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 Denver CO 80211

Bob CorneE
 ; roect Number[]noned
 ; roect[KMG - HSR Corvi 2-36

www.originslaboratory.com
 page 1 of 2

ORIGINS
LABORATORY, INC

X572144

Client: APC / Tasman Project Manager/Send Report To: Robert CorneE@tasman-geo.com
 Address: _____ Email Address: ↓ c/corvie: Phil Humble
 Telephone Number: 785-554-7588 Project Name/Number: HSR Corvi 2-36
 Samples Collected By: Kevin W. Tyler B

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions		
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air/Surface			Other	
S-BH01	12/18/15	1412	3	X	X	X		X						
W-BH02	12/18/15	1328		X	X	X		X						
N-BH03		1340		X	X	X		X						
N-BH04		1350		X	X	X		X						
W-BH05		1354		X	X	X		X						
NW-BH06		1402		X	X	X		X						
BH07		1241		X	X	X		X						
BH08		125-		X	X	X		X						
BH09		1242		X	X	X		X						
BH10		1443		X	X	X		X						
Relinquished By: <i>Bob CorneE</i>	Date: 12/18/15	Time: 1524	Time: 1524	Received By: <i>[Signature]</i>	Date: 12/18/15	Time: 1524	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>							

Comments: _____ Date Results Needed: 12/1

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

Origins Laboratory, Inc.

Jeff Pellegri

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

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penver CO 80211

Bob CorneE

; rowect Number[]noneD

; rowect[KMG - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 7512144

Client: Tasman

Client Project ID: HSR Corvi 2-36

Checklist Completed by: Joe Henderson

Shipped Via: H/D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 12/15 1344

Airbill #: 117

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

Cooler Number/Temperature: 1 / 13.1 °C 1 / _____ °C 1 / _____ °C 1 / _____ °C

Thermometer ID: TW3

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

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

[Signature]
Reviewed by (Project Manager)

12/14/15
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature: Jefe Pellegrini]

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penver CO 80211

Bob CorneE

; roect Number[]noneD

; roect[KMG - HSR Corvi 2-36

S-BH01

12/8/201p 2:12:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-01 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane317	08.0 6	873 1-			"	"	2	
%arroSategToluene318	- 4- 6	8D3 -D			"	"	2	
%arroSateg73 romofluorobenzene	- 4- 6	873 -7			"	"	2	

Origins Laboratory, Inc.



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Bob CorneE
 ; roect Number[]noneD
 ; roect[KMG - HSR Corvi 2-36

W-BH02

12/8/201p 1:28:00PM

Analyte	Result	Rej orting Limit	Units	ip ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-02 (Water)

BTE5 by EPA 8260C

BenEene	2X60	20.0	ug/L	20	B5L1101	12/11/2015	12/11/2015	
Toluene	933	20.0	W	W	W	W	W	
PthylbenEene	78.8	20.0	W	W	W	W	W	
9ylenes, total	928	20.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane3d7	08.0 6	873 1-			"	"		2
%urroSategToluene3d8	- 4- 6	8D3 - D			"	"		2
%urroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"		2

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 Denver CO 80211

Bob CorneE
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 ; roect[KMG - HSR Corvi 2-36

N-BH03

12/8/201p 1:X0:00PM

Analyte	Result	Rej orting Limit	Units	ipilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-03 (Water)

BTE5 by EPA 8260C

BenEene	p2.6	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	18.X	1.0	W	W	W	W	W	
PthylbenEene	2.1	1.0	W	W	W	W	W	
9ylenes, total	37.1	1.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	00.8 6	873 1-			"	"	- 15 - 514 - D	
%urroSategToluene318	- 41 6	8D3 - D			"	"	2	
%urroSateg73 romofluorobenzene	- 47 6	873 - 7			"	"	2	

Origins Laboratory, Inc.



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Tasman Geosciences
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Bob CorneE
 ; rowect Number[]noneD
 ; rowect[KMG - HSR Corvi 2-36

N-BH0X

12/8/201p 1:p0:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-0X (Water)

BTE5 by EPA 8260C

BenEene	176	20.0	ug/L	20	B5L1101	12/11/2015	12/12/2015	
Toluene	X7X	20.0	W	W	W	W	W	
PthylbenEene	280	20.0	W	W	W	W	W	
9ylenes, total	3X80	20.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane3d7	09.D6	873 1-			"	"	- 15 - 514 - D	
%urroSategToluene3d8	- 44 6	8D3 - D			"	"	2	
%urroSateg73 romofluorobenzene	- 4" 6	873 - 7			"	"	2	

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Bob CorneE

; rowect Number[]noneD

; rowect[KMG - HSR Corvi 2-36

W-BH0b

12/8/201p 1:pX:00PM

Analyte	Result	Rej orting Limit	Units	ipilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.

5p121XX-0p (Water)

BTE5 by EPA 8260C

BenEene	28.p	2.0	ug/L	2	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	2.0	W	W	W	W	W	
PthylbenEene	38.8	2.0	W	W	W	W	W	
9ylenes, total	127	2.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane3d7	08.9 6	873 1-			"	"	2	
%arroSategToluene3d8	- 41 6	8D3 - D			"	"	2	
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"	2	

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Bob CorneE
 ; rowect Number[]noneD
 ; rowect[KMG - HSR Corvi 2-36

NW-BH06
12/8/201p 2:02:00PM

Analyte	Result	Rej orting Limit	Units	ipilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-06 (Water)

BTE5 by EPA 8260C

BenEene	12200	200	ug/L	200	B5L1101	12/11/2015	12/11/2015	
Toluene	11100	200	W	W	W	W	W	
PthylbenEene	p98	200	W	W	W	W	W	
9ylenes, total	10200	200	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	00.- 6	873 1-			"	"		2
%urroSategToluene318	- 4- 6	8D3 - D			"	"		2
%urroSateg73 romofluorobenzene	- 44 6	873 - 7			"	"		2

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BH07

12/8/201p 12:X1:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-07 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%urroSateg- :13 ichloroethane3d7	- 4" 6	873 1-			"	"	2	
%urroSategToluene3d8	00.7 6	8D3 - D			"	"	2	
%urroSateg73 romofluorobenzene	- 41 6	873 - 7			"	"	2	

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BH08

12/8/201p 12:p2:00PM

Analyte	Result	Limit	Units	Rej ording	Batch	Rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-08 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane317	08.B6	873 1-			"	"	2	
%arroSategToluene318	- 4- 6	8D3 - D			"	"	2	
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"	2	

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BH09

12/8/201p 12:X2:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-09 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane317	00.D6	873 1-			"	"	2	
%arroSategToluene318	00.8 6	8D3 -D			"	"	2	
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"	2	

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BH10

12/8/201p 2:X3:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-10 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	
%arroSateg- :13 ichloroethane3l7	- 4- 6	873 1-			"	"		2
%arroSategToluene3l8	00.B 6	8D3 - D			"	"		2
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"		2

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BH11

12/8/201p 2:32:00PM

Analyte	Result	Limit	Units	Rej ording	Batch	Rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-11 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane317	0B.0 6	873 1-			"	"	2	
%arroSategToluene318	- 4- 6	8D3 -D			"	"	2	
%arroSateg73 romofluorobenzene	- 41 6	873 - 7			"	"	2	

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4 oatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
---------	--------	------------------	-------	--------------	---------------	------	-------------	------	------------	-------

Batch BpL1101 - EPA p030B (Water)

Blank (BpL1101-BLK1)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	Np	1.0	ug/L							
Toluene	Np	1.0	W							
PthylbenEene	Np	1.0	W							
9ylenes, total	Np	1.0	W							
%urroSateg- :13 ichloroethane3d7	B1			B1.D		08.9	87%- 1-			
%urroSategToluene3d8	B7			B1.D		- 41	8C%- - E			
%urroSateg73 romofluorobenzene	B"			B1.D		- 4-	87%- - 7			

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4 oatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Blank (BpL1101-BLK2)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	Np	1.0	ug/L							
Toluene	Np	1.0	W							
PthylbenEene	Np	1.0	W							
9ylenes, total	Np	1.0	W							
%urroSateg- :13 ichloroethane3d7	B1			B1.D		00.4	87%- 1-			
%urroSategToluene3d8	B7			B1.D		- 41	8C%- - E			
%urroSateg73 romofluorobenzene	B1			B1.D		00.1	87%- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

LCS (BpL1101-BS1)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	5z.z	1.0	ug/L	50.0		10:	73.3-12:			
Toluene	53.3	1.0	W	50.0		107	76.2-123			
PthylbenEene	55.z	1.0	W	50.0		111	73.6-130			
m.j -9ylene	110	2.0	W	100		110	76.1-126			
o-9ylene	5z.2	1.0	W	50.0		108	76.6-12z			
%urroSateg- :13 ichloroethane3t7	D8		2	B1.D		0".B	87:- 1-			
%urroSategToluene3t8	B7		2	B1.D		- 41	8E:- - E			
%urroSateg73 romofluorobenzene	BC		2	B1.D		- 47	87:- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

LCS (BpL1101-BS2)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	z6.6	1.0	ug/L	50.0		: 3.2	73.3-12:			
Toluene	zz.8	1.0	W	50.0		8: .6	76.2-123			
PthylbenEene	z5.5	1.0	W	50.0		: 1.0	73.6-130			
m,j -9ylene	: 0.3	2.0	W	100		: 0.3	76.1-126			
o-9ylene	z6.2	1.0	W	50.0		: 2.z	76.6-12z			
%urroSateg- :13 ichloroethane3t7	D0		2	B1.D		07.1	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B7		2	B1.D		- 41	87:- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Matrix SI ike (BpL1101-MS1)	Source: 5p12136-02	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z5.z	1.0	ug/L	50.0	Np	: 0.7	7z-130			
Toluene	z3.z	1.0	W	50.0	Np	86.8	73-131			
PthylbenEene	zz.2	1.0	W	50.0	Np	88.z	76-132			
m,j -9ylene	88.0	2.0	W	100	Np	88.0	6: -13:			
o-9ylene	z5.8	1.0	W	50.0	Np	: 1.5	7z-131			
%urroSateg- :13 ichloroethane3t7	D8		2	B1.D		01.B	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B7		2	B1.D		- 41	87:- - 7			

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4 oVatiE Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Matrix SI ike (BpL1101-MS2)	Source: 5p12136-03	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z6.7	1.0	ug/L	50.0	Np	: 3.z	7z-130			
Toluene	z5.7	1.0	W	50.0	Np	: 1.z	73-131			
PthylbenEene	z5.:	1.0	W	50.0	Np	: 1.8	76-132			
m.j -9ylene	: 1.7	2.0	W	100	Np	: 1.7	6: -13:			
o-9ylene	z8.1	1.0	W	50.0	Np	: 6.2	7z-131			
%urroSateg- :13 ichloroethane3t7	D9		2	B1.D		0- .4	87:- 1-			
%urroSategToluene3t8	B7		2	B1.D		- 4"	8E:- - E			
%urroSateg73 romofluorobenzene	B1		2	B1.D		08.9	87:- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Matrix SI ike Dul (BpL1101-MSD1)	Source: 5p12136-02	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z5.:	1.0	ug/L	50.0	Np	: 1.:	7z-130	1.23	20	
Toluene	zz.6	1.0	W	50.0	Np	8: .1	73-131	2.66	20	
PthylbenEene	z5.1	1.0	W	50.0	Np	: 0.2	76-132	2.02	20	
m.j -9ylene	8: .6	2.0	W	100	Np	8: .6	6: -13:	1.8z	20	
o-9ylene	z6.8	1.0	W	50.0	Np	: 3.7	7z-131	2.33	20	
%urroSateg- :13 ichloroethane3t7	DB		2	B1.D		04.7	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B1		2	B1.D		00.9	87:- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Matrix SI ike Dul (BpL1101-MSD2)	Source: 5p12136-03	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z6.6	1.0	ug/L	50.0	Np	: 3.3	7z-130	0.12:	20	
Toluene	zz.2	1.0	W	50.0	Np	88.5	73-131	3.25	20	
PthylbenEene	zz.8	1.0	W	50.0	Np	8: .6	76-132	2.38	20	
m,j -9ylene	8: .:	2.0	W	100	Np	8: .:	6: -13:	2.02	20	
o-9ylene	z6.3	1.0	W	50.0	Np	: 2.7	7z-131	3.73	20	
%urroSateg- :13 ichloroethane3d7	D8		2	B1.D		01.-	87:- 1-			
%urroSategToluene3d8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B7		2	B1.D		- 41	87:- - 7			

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Notes and Definitions

Np Analyte NOT pPTPCTPp at or above the rej orting limit

R; p Relative ; ercent pfference

All soil results are rej orted at a Xet Xeight basis.

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December 1p, 201p

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. p December 08, 2015. This project is associated with Origins project number 95121zz-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows: EPA 821-A are defined in EPA 821-A, EPA 821-B are defined in 40 CFR part 136 and EPA 821-C 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 in 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 EPA 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



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penver CO 80211

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; roect[KMG - HSR Corvi 2-36

CROSS RPFPRPNCP RP; ORT

Samj le lp	Laboratory lp	Matrix	p ate Samj led	p ate Received
S-BH01	95121zz-01	4 ater	pecember 8, 2015 1z[12	12/08/2015 15[2:
4 -BH02	95121zz-02	4 ater	pecember 8, 2015 13[28	12/08/2015 15[2:
N-BH03	95121zz-03	4 ater	pecember 8, 2015 13[z0	12/08/2015 15[2:
N-BH0z	95121zz-0z	4 ater	pecember 8, 2015 13[50	12/08/2015 15[2:
4 -BH05	95121zz-05	4 ater	pecember 8, 2015 13[5z	12/08/2015 15[2:
N4 -BH06	95121zz-06	4 ater	pecember 8, 2015 1z[02	12/08/2015 15[2:
BH07	95121zz-07	4 ater	pecember 8, 2015 12[z1	12/08/2015 15[2:
BH08	95121zz-08	4 ater	pecember 8, 2015 12[52	12/08/2015 15[2:
BH0:	95121zz-0:	4 ater	pecember 8, 2015 12[z2	12/08/2015 15[2:
BH10	95121zz-10	4 ater	pecember 8, 2015 1z[z3	12/08/2015 15[2:

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; rowect Number[]noneD

; rowect[KMG - HSR Corvi 2-36

CROSS RPFPRPNCP RP; ORT

Samj le Ip	Laboratory Ip	Matrix	p ate Samj led	p ate Received
BH11	95121zz-11	4 ater	peceember 8, 2015 1z[32	12/08/2015 15[2:

Origins Laboratory, Inc.



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 Denver CO 80211

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 ; roect Number[]noned
 ; roect[KMG - HSR Corvi 2-36

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 page 1 of 2
ORIGINS LABORATORY, INC
 X572144
 Client: APC / Tasman Project Manager/Send Report To: Robert CorneE
 Address: _____ Email Address: bcornee@tasman-geo.com
 Telephone Number: 785-554-7588 Project Name/Number: HSR Corvi 2-36
 Samples Collected By: Kevin W. Tyler B

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air/Surface			Other
S-BH01	12/18/15	1412	3	X	X	X		X					
W-BH02	12/18/15	1328		X	X	X		X					
N-BH03		1340		X	X	X		X					
N-BH04		1350		X	X	X		X					
W-BH05		1354		X	X	X		X					
NW-BH06		1402		X	X	X		X					
BH07		1241		X	X	X		X					
BH08		125-		X	X	X		X					
BH09		1242		X	X	X		X					
BH10		1443		X	X	X		X					
Relinquished By: <i>Bob CorneE</i>	Date: 12/18/15	Time: 1524	Received By: <i>[Signature]</i>	Date: 12/18/15	Time: 1524	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>							

Comments: _____ Date Results Needed: 12/1

Origins Laboratory, Inc.

Jeff Pellegri

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Bob CorneE

; rowect Number[]noneD

; rowect[KMG - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 7512144

Client: Tasman

Client Project ID: HSR Corvi 2-36

Checklist Completed by: Joe Henderson

Shipped Via: H/D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 12/15 1344

Airbill #: 117

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

Cooler Number/Temperature: 1 / 13.1 °C _____ °C _____ °C _____ °C (Describe)

Thermometer ID: TW3

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

[Signature]
Reviewed by (Project Manager)

12/14/15
Date/Time Reviewed

Origins Laboratory, Inc.

Joe Pellegrini

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S-BH01

12/8/201p 2:12:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-01 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	08.0 6	873 1-			"	"		2
%urroSategToluene318	- 4- 6	8D3 -D			"	"		2
%urroSateg73 romofluorobenzene	- 4- 6	873 -7			"	"		2

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W-BH02

12/8/201p 1:28:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-02 (Water)

BTE5 by EPA 8260C

BenEene	2X60	20.0	ug/L	20	B5L1101	12/11/2015	12/11/2015	
Toluene	933	20.0	W	W	W	W	W	
PthylbenEene	78.8	20.0	W	W	W	W	W	
9ylenes, total	928	20.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	08.0 6	873 1-			"	"		2
%urroSategToluene318	- 4- 6	8D3 - D			"	"		2
%urroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"		2

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N-BH03

12/8/201p 1:X0:00PM

Analyte	Result	Rej orting Limit	Units	ip ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-03 (Water)

BTE5 by EPA 8260C

BenEene	p2.6	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	18.X	1.0	W	W	W	W	W	
PthylbenEene	2.1	1.0	W	W	W	W	W	
9ylenes, total	37.1	1.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	00.8 6	873 1-			"	"	- 15 - 514 - D	
%urroSategToluene318	- 41 6	8D3 - D			"	"	2	
%urroSateg73 romofluorobenzene	- 47 6	873 - 7			"	"	2	

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N-BH0X

12/8/201p 1:p0:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-0X (Water)

BTE5 by EPA 8260C

BenEene	176	20.0	ug/L	20	B5L1101	12/11/2015	12/12/2015	
Toluene	X7X	20.0	W	W	W	W	W	
PthylbenEene	280	20.0	W	W	W	W	W	
9ylenes, total	3X80	20.0	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	09.D6	873 1-			"	"	- 15 - 514 - D	
%urroSategToluene318	- 44 6	8D3 - D			"	"	2	
%urroSateg73 romofluorobenzene	- 4" 6	873 - 7			"	"	2	

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W-BH0b

12/8/201p 1:pX:00PM

Analyte	Result	Rej orting Limit	Units	ipilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-0p (Water)

BTE5 by EPA 8260C

BenEene	28.p	2.0	ug/L	2	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	2.0	W	W	W	W	W	
PthylbenEene	38.8	2.0	W	W	W	W	W	
9ylenes, total	127	2.0	W	W	W	W	W	
%arroSateg- :13 ichloroethane3d7	08.9 6	873 1-			"	"		2
%arroSategToluene3d8	- 41 6	8D3 - D			"	"		2
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"		2

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NW-BH06
12/8/201p 2:02:00PM

Analyte	Result	Rej orting Limit	Units	ipilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-06 (Water)

BTE5 by EPA 8260C

BenEene	12200	200	ug/L	200	B5L1101	12/11/2015	12/11/2015	
Toluene	11100	200	W	W	W	W	W	
PthylbenEene	p98	200	W	W	W	W	W	
9ylenes, total	10200	200	W	W	W	W	W	
%urroSateg- :13 ichloroethane317	00.- 6	873 1-			"	"		2
%urroSategToluene318	- 4- 6	8D3 - D			"	"		2
%urroSateg73 romofluorobenzene	- 44 6	873 - 7			"	"		2

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BH07

12/8/201p 12:X1:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-07 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane3d7	- 4" 6	873 1-			"	"	2	
%arroSategToluene3d8	00.7 6	8D3 - D			"	"	2	
%arroSateg73 romofluorobenzene	- 41 6	873 - 7			"	"	2	

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BH08

12/8/201p 12:p2:00PM

Analyte	Result	Limit	Units	Rej ording	Batch	Rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-08 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	
%arroSateg- :13 ichloroethane317	08.B6	873 1-			"	"		2
%arroSategToluene318	- 4- 6	8D3 - D			"	"		2
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"		2

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BH09

12/8/201p 12:X2:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-09 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%arroSateg- :13 ichloroethane317	00.D6	873 1-			"	"	2	
%arroSategToluene318	00.8 6	8D3 -D			"	"	2	
%arroSateg73 romofluorobenzene	- 4- 6	873 - 7			"	"	2	

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BH10

12/8/201p 2:X3:00PM

Analyte	Result	Rej orting Limit	Units	p ilution	Batch	; rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-10 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%urroSateg- :13 ichloroethane317

-4- 6

873 1-

"

"

2

%urroSategToluene318

00.B 6

8D3 - D

"

"

2

%urroSateg73 romofluorobenzene

-4- 6

873 - 7

"

"

2

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BH11

12/8/201p 2:32:00PM

Analyte	Result	Limit	Units	Rej ording	Batch	Rej ared	AnalyEed	Notes
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Origins Laboratory, Inc.
5p121XX-11 (Water)

BTE5 by EPA 8260C

BenEene	Np	1.0	ug/L	1	B5L1101	12/11/2015	12/11/2015	
Toluene	Np	1.0	W	W	W	W	W	
PthylbenEene	Np	1.0	W	W	W	W	W	
9ylenes, total	Np	1.0	W	W	W	W	W	

%urroSateg- :13 ichloroethane317	0B.0 6	873 1-			"	"	2	
%urroSategToluene318	- 4- 6	8D3 -D			"	"	2	
%urroSateg73 romofluorobenzene	- 41 6	873 - 7			"	"	2	

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4 oatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Blank (BpL1101-BLK1)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	Np	1.0	ug/L							
Toluene	Np	1.0	W							
PthylbenEene	Np	1.0	W							
9ylenes, total	Np	1.0	W							
%urroSateg- :13 ichloroethane3d7	B1			B1.D		08.9	87%- 1-			
%urroSategToluene3d8	B7			B1.D		- 41	8C%- - E			
%urroSateg73 romofluorobenzene	B"			B1.D		- 4-	87%- - 7			

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; roect[KMG - HSR Corvi 2-36

4 oatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Blank (BpL1101-BLK2)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	Np	1.0	ug/L							
Toluene	Np	1.0	W							
PthylbenEene	Np	1.0	W							
9ylenes, total	Np	1.0	W							
%urroSateg- :13 ichloroethane3d7	B1			B1.D		00.4	87%- 1-			
%urroSategToluene3d8	B7			B1.D		- 41	8C%- - E			
%urroSateg73 romofluorobenzene	B1			B1.D		00.1	87%- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

LCS (BpL1101-BS1)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	5z.z	1.0	ug/L	50.0		10:	73.3-12:			
Toluene	53.3	1.0	W	50.0		107	76.2-123			
PthylbenEene	55.z	1.0	W	50.0		111	73.6-130			
m.j -9ylene	110	2.0	W	100		110	76.1-126			
o-9ylene	5z.2	1.0	W	50.0		108	76.6-12z			
%urroSateg- :13 ichloroethane3t7	D8		2	B1.D		0".B	87:- 1-			
%urroSategToluene3t8	B7		2	B1.D		- 41	8E:- - E			
%urroSateg73 romofluorobenzene	BC		2	B1.D		- 47	87:- - 7			

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4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

LCS (BpL1101-BS2)

; rej ared[12/11/2015 AnalyEed[12/11/2015

BenEene	z6.6	1.0	ug/L	50.0		: 3.2	73.3-12:			
Toluene	zz.8	1.0	W	50.0		8: .6	76.2-123			
PthylbenEene	z5.5	1.0	W	50.0		: 1.0	73.6-130			
m,j -9ylene	: 0.3	2.0	W	100		: 0.3	76.1-126			
o-9ylene	z6.2	1.0	W	50.0		: 2.z	76.6-12z			
%urroSateg- :13 ichloroethane3t7	D0		2	B1.D		07.1	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B7		2	B1.D		- 41	87:- - 7			

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; rowect[KMG - HSR Corvi 2-36

4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Matrix SI ike (BpL1101-MS1)	Source: 5p12136-02	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z5.z	1.0	ug/L	50.0	Np	: 0.7	7z-130			
Toluene	z3.z	1.0	W	50.0	Np	86.8	73-131			
PthylbenEene	zz.2	1.0	W	50.0	Np	88.z	76-132			
m.j -9ylene	88.0	2.0	W	100	Np	88.0	6: -13:			
o-9ylene	z5.8	1.0	W	50.0	Np	: 1.5	7z-131			
%urroSateg- :13 ichloroethane3t7	D8		2	B1.D		01.B	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B7		2	B1.D		- 41	87:- - 7			

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Bob CorneE

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; roect[KMG - HSR Corvi 2-36

4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
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Batch BpL1101 - EPA p030B (Water)

Matrix SI ike (BpL1101-MS2)	Source: 5p12136-03	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z6.7	1.0	ug/L	50.0	Np	: 3.z	7z-130			
Toluene	z5.7	1.0	W	50.0	Np	: 1.z	73-131			
PthylbenEene	z5.:	1.0	W	50.0	Np	: 1.8	76-132			
m.j -9ylene	: 1.7	2.0	W	100	Np	: 1.7	6: -13:			
o-9ylene	z8.1	1.0	W	50.0	Np	: 6.2	7z-131			
%urroSateg- :13 ichloroethane3t7	D9		2	B1.D		0- .4	87:- 1-			
%urroSategToluene3t8	B7		2	B1.D		- 4"	8E:- - E			
%urroSateg73 romofluorobenzene	B1		2	B1.D		08.9	87:- - 7			

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Tasman Geosciences

68 : ; ecos Street, Unit C

penver CO 80211

Bob CorneE

; rowect Number[]noneD

; rowect[KMG - HSR Corvi 2-36

4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
---------	--------	------------------	-------	--------------	---------------	------	-------------	------	------------	-------

Batch BpL1101 - EPA p030B (Water)

Matrix SI ike Dul (BpL1101-MSD1)	Source: 5p12136-02	; rej ared[12/11/2015 AnalyEed[12/11/2015								
BenEene	z5.:	1.0	ug/L	50.0	Np	: 1.:	7z-130	1.23	20	
Toluene	zz.6	1.0	W	50.0	Np	8: .1	73-131	2.66	20	
PthylbenEene	z5.1	1.0	W	50.0	Np	: 0.2	76-132	2.02	20	
m.j -9ylene	8: .6	2.0	W	100	Np	8: .6	6: -13:	1.8z	20	
o-9ylene	z6.8	1.0	W	50.0	Np	: 3.7	7z-131	2.33	20	
%urroSateg- :13 ichloroethane3t7	DB		2	B1.D		04.7	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B1		2	B1.D		00.9	87:- - 7			

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Tasman Geosciences

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penver CO 80211

Bob CorneE

; roect Number[]noneD

; roect[KMG - HSR Corvi 2-36

4 oVatiVe Organic Coml ounds by GC/MS SW8X6 8260C - QuaVty ControV
Origins Laboratory, Inc.

Analyte	Result	Rej orting Limit	Units	Sj ike Level	Source Result	%RPC	%RPC Limits	R; p	R; p Limit	Notes
---------	--------	------------------	-------	--------------	---------------	------	-------------	------	------------	-------

Batch BpL1101 - EPA p030B (Water)

Matrix SI ike Dul (BpL1101-MSD2)	Source: 5p12136-03		; rej ared[12/11/2015 AnalyEed[12/11/2015							
BenEene	z6.6	1.0	ug/L	50.0	Np	: 3.3	7z-130	0.12:	20	
Toluene	zz.2	1.0	W	50.0	Np	88.5	73-131	3.25	20	
PthylbenEene	zz.8	1.0	W	50.0	Np	8: .6	76-132	2.38	20	
m,j -9ylene	8: .:	2.0	W	100	Np	8: .:	6: -13:	2.02	20	
o-9ylene	z6.3	1.0	W	50.0	Np	: 2.7	7z-131	3.73	20	
%urroSateg- :13 ichloroethane3t7	D8		2	B1.D		01.-	87:- 1-			
%urroSategToluene3t8	B"		2	B1.D		- 4-	8E:- - E			
%urroSateg73 romofluorobenzene	B7		2	B1.D		- 41	87:- - 7			

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Bob CorneE

; rowct Number[]noneD

; rowct[KMG - HSR Corvi 2-36

Notes and Definitions

Np Analyte NOT pPTPCTPp at or above the rej orting limit

R; p Relative ; ercent pfference

All soil results are rej orted at a Xet Xeight basis.

Origins Laboratory, Inc.



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Marcp 22, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Corvi 2-36

Project Number - [none]

Attached are your analytical results for KMG - HSR Corvi 2-36 received by Origins Laboratory, Inc. March 16, 2016. This project is associated with Origins project number X603216-01.

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 - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01-03/16/16	X603216-01	Water	March 16, 2016 11:18	03/16/2016 16:30
BH02-03/16/16	X603216-02	Water	March 16, 2016 11:58	03/16/2016 16:30
BH03-03/16/16	X603216-03	Water	March 16, 2016 11:47	03/16/2016 16:30
BH04-03/16/16	X603216-04	Water	March 16, 2016 11:35	03/16/2016 16:30
BH05-03/16/16	X603216-05	Water	March 16, 2016 11:44	03/16/2016 16:30
BH06-03/16/16	X603216-06	Water	March 16, 2016 12:05	03/16/2016 16:30
BH07-03/16/16	X603216-07	Water	March 16, 2016 12:19	03/16/2016 16:30
BH08-03/16/16	X603216-08	Water	March 16, 2016 12:36	03/16/2016 16:30
BH09-03/16/16	X603216-09	Water	March 16, 2016 11:33	03/16/2016 16:30
BH10-03/16/16	X603216-10	Water	March 16, 2016 11:20	03/16/2016 16:30

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Corvi 2-36

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH11-03/16/16	X603216-11	Water	March 16, 2016 11:34	03/16/2016 16:30

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

www.originslaboratory.com

X603216

page 1 of 2

ORIGINS
 LABORATORY, INC

Client: Tasman Geo for APC
 Project Manager: Bob Cornez
 Address: _____
 Project Name: HSR Corvi 2-36
 Telephone Number: 912 230 2807
 Project Number: _____
 Email Address: fcornez@tasman-geo.com
 Samples Collected By: Brack Nelson
APC Invoice Phil Hamlin

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #	Other			
BH02L - 03/10/16	3/16/16	1118	3	X	X	X	X	X						1
BH02 - 03/10/16		1158	3	X	X	X	X	X						2
BH03 - 03/10/16		1147	3	X	X	X	X	X						3
BH04 - 03/10/16		1135	3	X	X	X	X	X						4
BH05 - 03/10/16		1144	3	X	X	X	X	X						5
BH06 - 03/10/16		1205	3	X	X	X	X	X						6
BH07 - 03/10/16		1219	3	X	X	X	X	X						7
BH08 - 03/10/16		1236	3	X	X	X	X	X						8
BH09 - 03/10/16		1133	3	X	X	X	X	X						9
BH10 - 03/10/16		1120	3	X	X	X	X	X						10
Relinquished By: <u>[Signature]</u>	Date: <u>3/16/16</u>	Time: <u>1630</u>	Received By: <u>[Signature]</u>	Date: <u>3.16.16</u>	Time: <u>1630</u>	Turnaround Time: <u>4.1</u>	Standard							
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____									

Temp Received. Date Results Needed

Origins Laboratory, Inc.

Jefe Pellegrini

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XG03216

Client: Tasman

Client Project ID: HSR Corvi 2-36

Checklist Completed by: Jeff Smith

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

Date/time completed: 3/17/16

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.1 °C 1 / _____ °C 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⁾ ?	X			
Is there ice present (document if blue ice is used)	1			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		1		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		1		
Were all samples received intact ⁽¹⁾ ?	1			
Was adequate sample volume provided ⁽¹⁾ ?	1			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	1			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	1			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	1			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		1		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	X			HCC
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 3/21/16

Origins Laboratory, Inc.

[Signature]

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH01-03.16.16
3.16.2016 11/18/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-01 X aterv

BTE5 bL EP: 8260C

Benzene	ND	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"	
Surrogate: Toluene-d8	106 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.0 %	84-114			"	"	"	

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH02-03.16.16

3.16.2016 11/A8/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-02 X aterv

BTE5 bL EP: 8260C

Benzene	2A60	20.0	ug/L	20	B6C1703	03/17/2016	03/18/2016	
Toluene	712	20.0	"	"	"	"	"	
Ethylbenzene	7214	20.0	"	"	"	"	"	
Xylenes, total	92A	20.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	

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Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH03-03.16.16
3.16.2016 11/47/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-03 X aterv

BTE5 bL EP: 8260C

Benzene	9IA	4.0	ug/L	4	B6C1703	03/17/2016	03/18/2016	
Toluene	7I2	4.0	"	"	"	"	"	
Ethylbenzene	ND	4.0	"	"	"	"	"	U
Xylenes, total	8I9	4.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	105 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %	84-114			"	"	"	

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Corvi 2-36

BH04-03.16.16

3.16.2016 11/3A/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-04 X aterv

BTE5 bL EP: 8260C

Benzene	172	50.0	ug/L	50	B6C1703	03/17/2016	03/18/2016	
Toluene	316	50.0	"	"	"	"	"	
Ethylbenzene	196	50.0	"	"	"	"	"	
Xylenes, total	2320	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	107 %	84-121			"	"	"	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH0A-03.16.16

3.16.2016 11/44/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-0A(aterv

BTE5 bL EP: 8260C

Benzene	A19	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	912	1.0	"	"	"	"	"	
Xylenes, total	2913	1.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	107 %	84-121			"	"	"	
Surrogate: Toluene-d8	106 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.9 %	84-114			"	"	"	

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH06-03.16.16
3.16.2016 12/0A/00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-06 X aterv

BTE5 bL EP: 8260C

Benzene	11800	100	ug/L	100	B6C1703	03/17/2016	03/19/2016	
Toluene	6810	50.0	"	50	"	"	03/18/2016	
Ethylbenzene	732	50.0	"	"	"	"	"	
Xylenes, total	12100	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	

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Bob Cornez
Project Number: [none]
Project: KMG - HSR Corvi 2-36

BH07-03.16.16
3.16.2016 12/19/00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-07 X aterv

BTE5 bL EP: 8260C

Benzene	ND	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	84-114			"	"	"	

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - HSR Corvi 2-36

BH08-03.16.16
3.16.2016 12/36/00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-08 X aterv

BTE5 bL EP: 8260C

Benzene	ND	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	111 %	84-121			"	"	"	
Surrogate: Toluene-d8	106 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.3 %	84-114			"	"	"	

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Corvi 2-36

BH09-03.16.16

3.16.2016 11/33/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-09 X aterv

BTE5 bL EP: 8260C

Benzene	ND	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.5 %	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 - HSR Corvi 2-36

BH10-03.16.16
3.16.2016 11/20/00: M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Ori) ins gaboratorL, ynci
5603216-10 X aterv

BTE5 bL EP: 8260C

Benzene	ND	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.9 %	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 - HSR Corvi 2-36

BH11-03.16.16
3.16.2016 11/34/00: M

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

Ori) ins gaboratorL, ynci
5603216-11 X aterv

BTE5 bL EP: 8260C

Benzene	ND	1.0	ug/L	1	B6C1703	03/17/2016	03/18/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.6 %	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 - HSR Corvi 2-36

**Volatile Organic Compounds by GC/MS (846 8260C - h ualitL Control
 Ori) ins gaboratorL, ynci**

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

Batcp B6C1703 - EP: A030B X aterW

Blank B6C1703-BgK1W

Prepared: 03/17/2016 Analyzed: 03/18/2016

Benzene	ND	1.0	ug/L							U
Toluene	ND	1.0	"							U
Ethylbenzene	ND	1.0	"							U
Xylenes, total	ND	1.0	"							U
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		102	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	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 - HSR Corvi 2-36

Volatile Organic Compounds by GC/MS (8468260C - High Quality Control)
Origins Laboratory, Inc.

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

Batch: B6C1703 - EP: A030B Water

gC1703-BS1W

Prepared: 03/17/2016 Analyzed: 03/18/2016

Benzene	54.9	1.0	ug/L	50.0		110	73.3-129			
Toluene	57.1	1.0	"	50.0		114	76.2-123			
Ethylbenzene	59.6	1.0	"	50.0		119	73.6-130			
m,p-Xylene	119	2.0	"	100		119	76.1-126			
o-Xylene	55.4	1.0	"	50.0		111	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.6	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	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 - HSR Corvi 2-36

**Volatile Organic Compounds by GC/MS (846 8260C - h ualitL Control
 Origin Laboratory, Inc)**

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

Batcp B6C1703 - EP: A030B X aterW

Matrix Spike B6C1703-MS1W	Source/ 5603206-02			Prepared: 03/17/2016 Analyzed: 03/18/2016						
Benzene	37.3	1.0	ug/L	50.0	ND	74.7	74-130			
Toluene	38.8	1.0	"	50.0	ND	77.5	73-131			
Ethylbenzene	38.4	1.0	"	50.0	ND	76.9	76-132			
m,p-Xylene	78.6	2.0	"	100	ND	78.6	69-139			
o-Xylene	37.3	1.0	"	50.0	ND	74.5	74-131			
Surrogate: 1,2-Dichloroethane-d4	69		"	62.5		110	84-121			
Surrogate: Toluene-d8	66		"	62.5		105	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.0	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 - HSR Corvi 2-36

**Volatile Organic Compounds by GC/MS (846 8260C - h ualitL Control
 Origin Laboratory, Inc)**

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

Batcp B6C1703 - EP: A030B X aterW

Matrix Spike	Dud	B6C1703-MSD1W	Source/	5603206-02	Prepared:	03/17/2016	Analyzed:	03/18/2016		
Benzene	45.5	1.0	ug/L	50.0	ND	91.0	74-130	19.7	20	
Toluene	46.8	1.0	"	50.0	ND	93.6	73-131	18.8	20	
Ethylbenzene	48.5	1.0	"	50.0	ND	97.1	76-132	23.2	20	QR-03
m,p-Xylene	97.7	2.0	"	100	ND	97.7	69-139	21.7	20	QR-03
o-Xylene	47.7	1.0	"	50.0	ND	95.4	74-131	24.5	20	QR-03
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	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 - HSR Corvi 2-36

Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

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.



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Jen Pellegrini For Noelle Doyle Mathis, President

**ATTACHMENT B
WELL COMPLETION
LOGS**



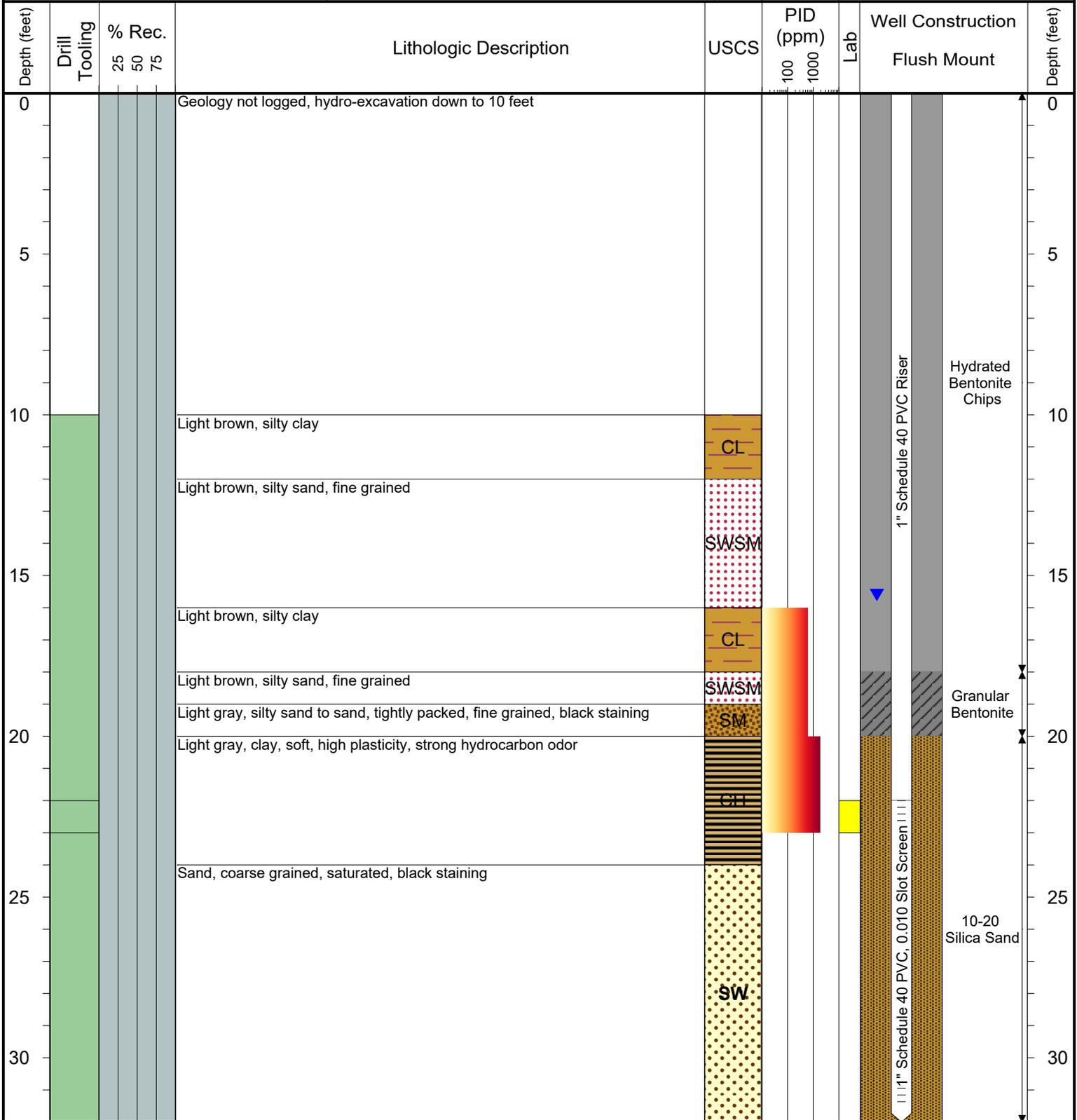
6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brock Nelson
 PROJECT MANAGER: Bob Cornez
 DRILLING CONTRACTOR: Tasman Geosciences, LLC
 DRILLING EQUIPMENT: AMS Powerprobe 9300-SK
 DRILL BIT SIZE (INCHES): 2.75"
 DATE STARTED - COMPLETED: 3/5/2015-3/5/2015
 TOTAL WELL DEPTH (FT. BGS): 32
 DEPTH TO WATER (FT. BGS): 15.60 (3/16/16) ▼

HSR Corvi 64N66W36NWNE

BORING / WELL ID: BH01

LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 40.26864176586
 EASTING (CO STATE PLANE): -104.72301426673
 CASING ELEVATION (FT. AMSL): 4847.195
 GROUND ELEVATION (FT. AMSL): 4847.365



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



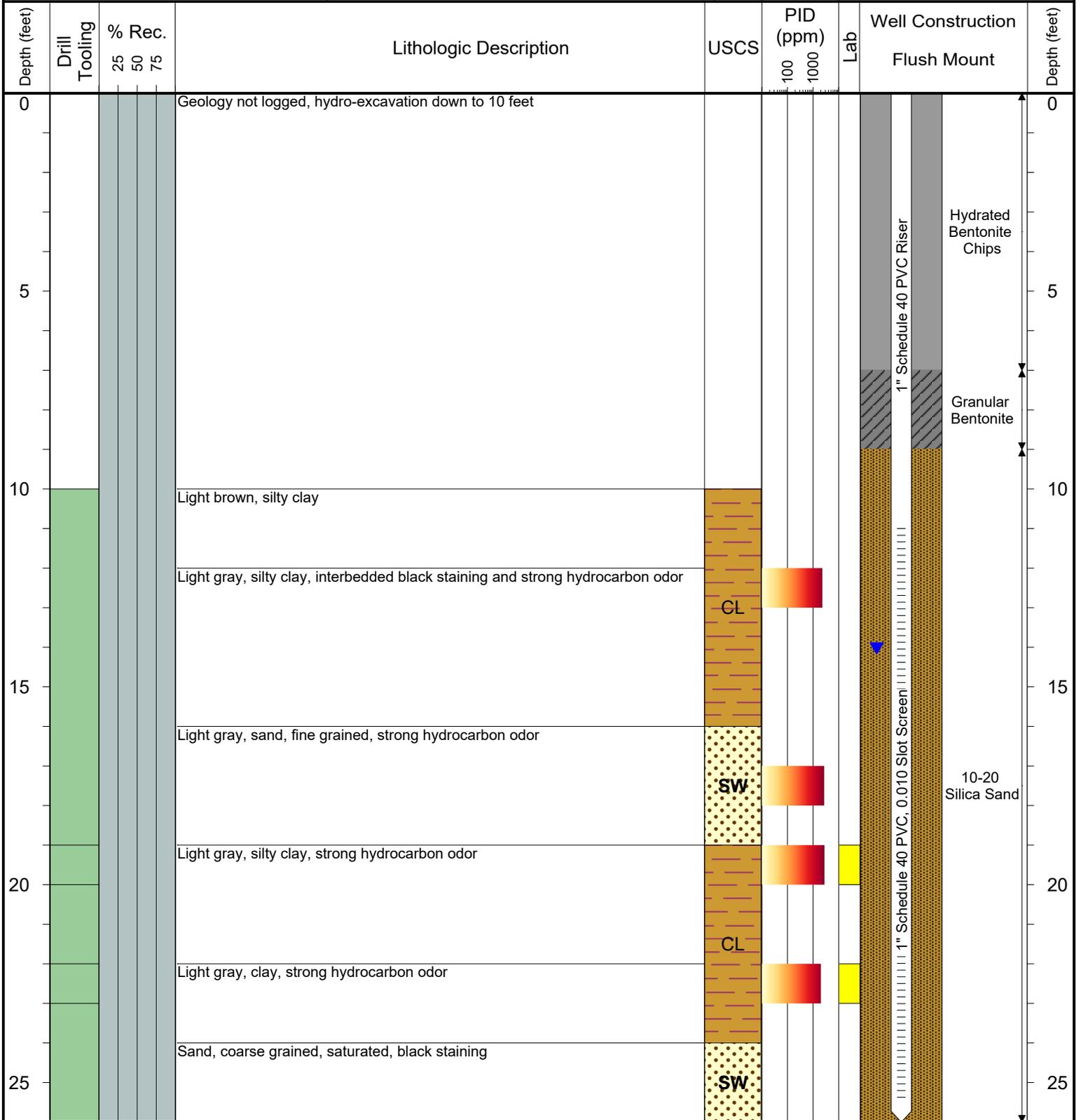
6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brock Nelson
 PROJECT MANAGER: Bob Cornez
 DRILLING CONTRACTOR: Tasman Geosciences, LLC
 DRILLING EQUIPMENT: AMS Powerprobe 9300-SK
 DRILL BIT SIZE (INCHES): 2.75"
 DATE STARTED - COMPLETED: 3/5/2015-3/5/2015
 TOTAL WELL DEPTH (FT. BGS): 26
 DEPTH TO WATER (FT. BGS): 14.03 (3/16/16) ▼

HSR Corvi 64N66W36NWNE

BORING / WELL ID: BH02

LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 40.268817687812
 EASTING (CO STATE PLANE): -104.72316234751
 CASING ELEVATION (FT. AMSL): 4844.735
 GROUND ELEVATION (FT. AMSL): 4844.855



Drilling / Sample Method:

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

Laboratory Sample Types:

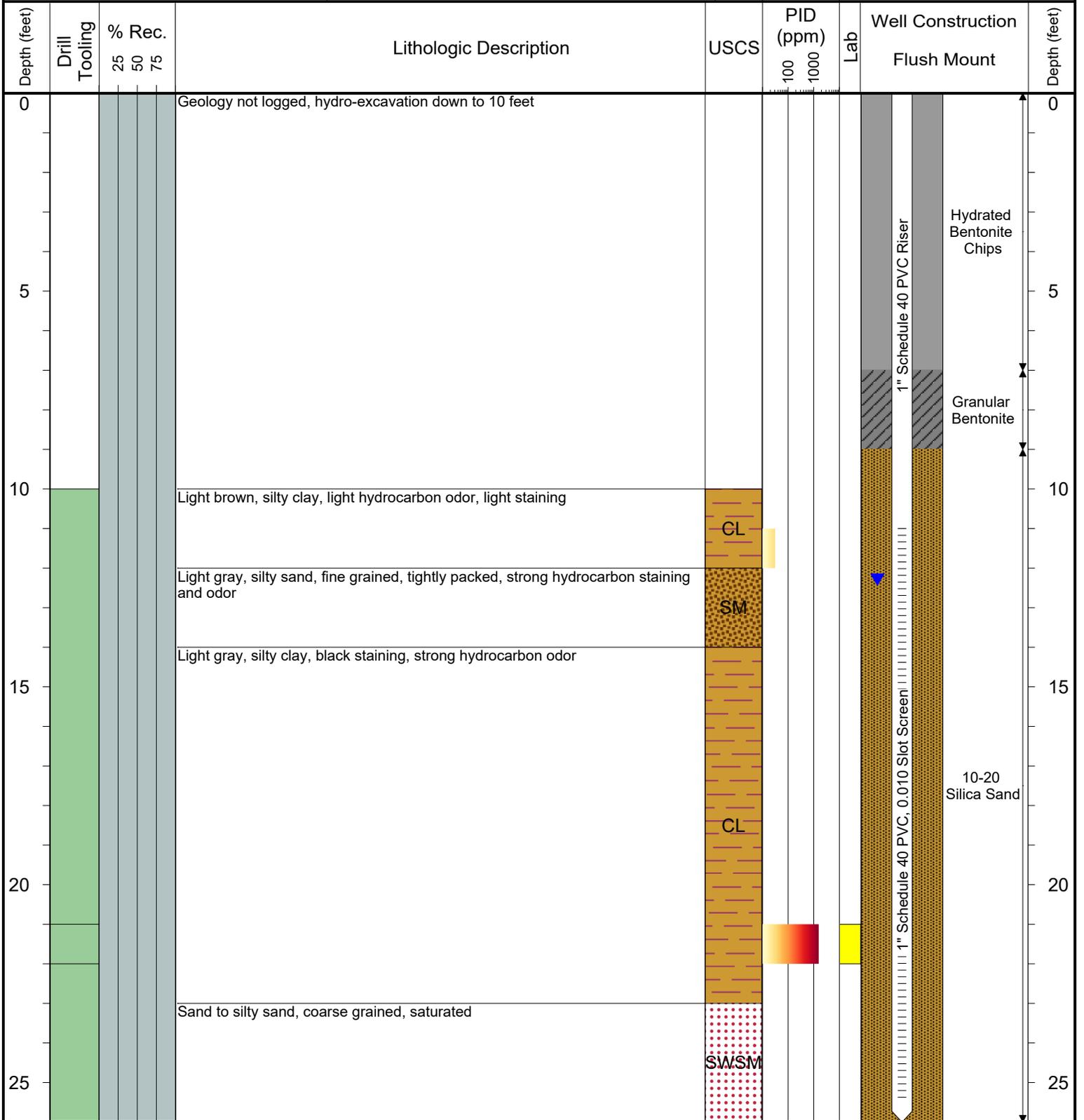
- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brock Nelson
 PROJECT MANAGER: Bob Cornez
 DRILLING CONTRACTOR: Tasman Geosciences, LLC
 DRILLING EQUIPMENT: AMS Powerprobe 9300-SK
 DRILL BIT SIZE (INCHES): 2.75"
 DATE STARTED - COMPLETED: 3/5/2015-3/5/2015
 TOTAL WELL DEPTH (FT. BGS): 26
 DEPTH TO WATER (FT. BGS): 12.29 (3/16/16) ▼

HSR Corvi 64N66W36NWNE
BORING / WELL ID: BH03
 LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 40.268861096693
 EASTING (CO STATE PLANE): -104.72301616374
 CASING ELEVATION (FT. AMSL): 4843.305
 GROUND ELEVATION (FT. AMSL): 4843.515



Drilling / Sample Method:

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

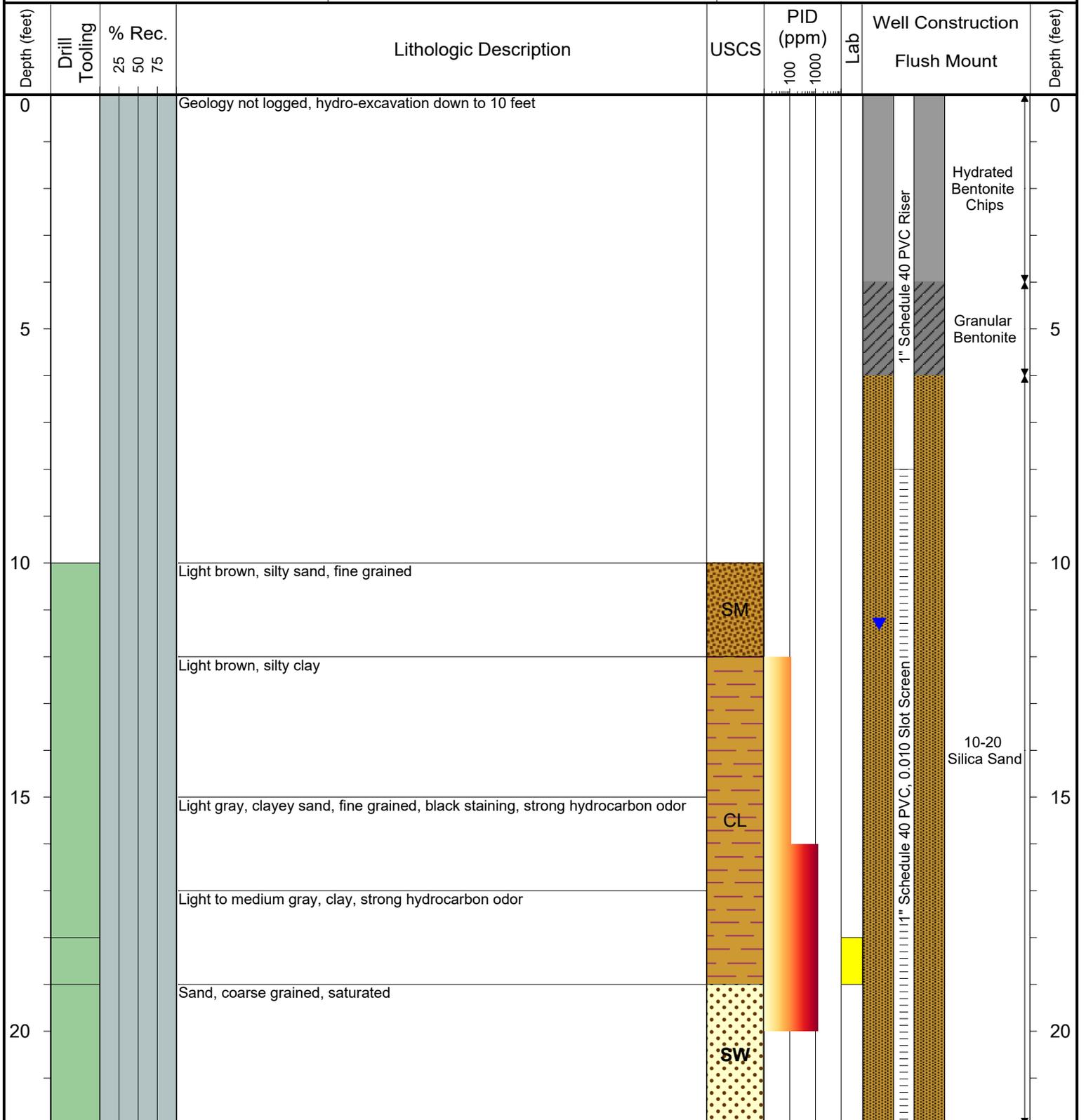
Laboratory Sample Types:

- 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	HSR Corvi 64N66W36NWNE
LOGGED BY: Brock Nelson	
PROJECT MANAGER: Bob Cornez	BORING / WELL ID: BH04
DRILLING CONTRACTOR: Tasman Geosciences, LLC	
DRILLING EQUIPMENT: AMS Powerprobe 9300-SK	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.75"	NORTHING (CO STATE PLANE): 40.268997026369
DATE STARTED - COMPLETED: 3/5/2015-3/5/2015	EASTING (CO STATE PLANE): -104.72303570592
TOTAL WELL DEPTH (FT. BGS): 22	CASING ELEVATION (FT. AMSL): 4842.055
DEPTH TO WATER (FT. BGS): 11.30 (3/16/16) ▼	GROUND ELEVATION (FT. AMSL): 4842.345



Drilling / Sample Method:		Laboratory Sample Types:	
Macro-Core	Perforated Injection Tool	Geotechnical Lab	Geotechnical & Analytical Chemistry Lab
Expendable Well Tip	HydroPunch Groundwater Sampler	Analytical Chemistry Lab	



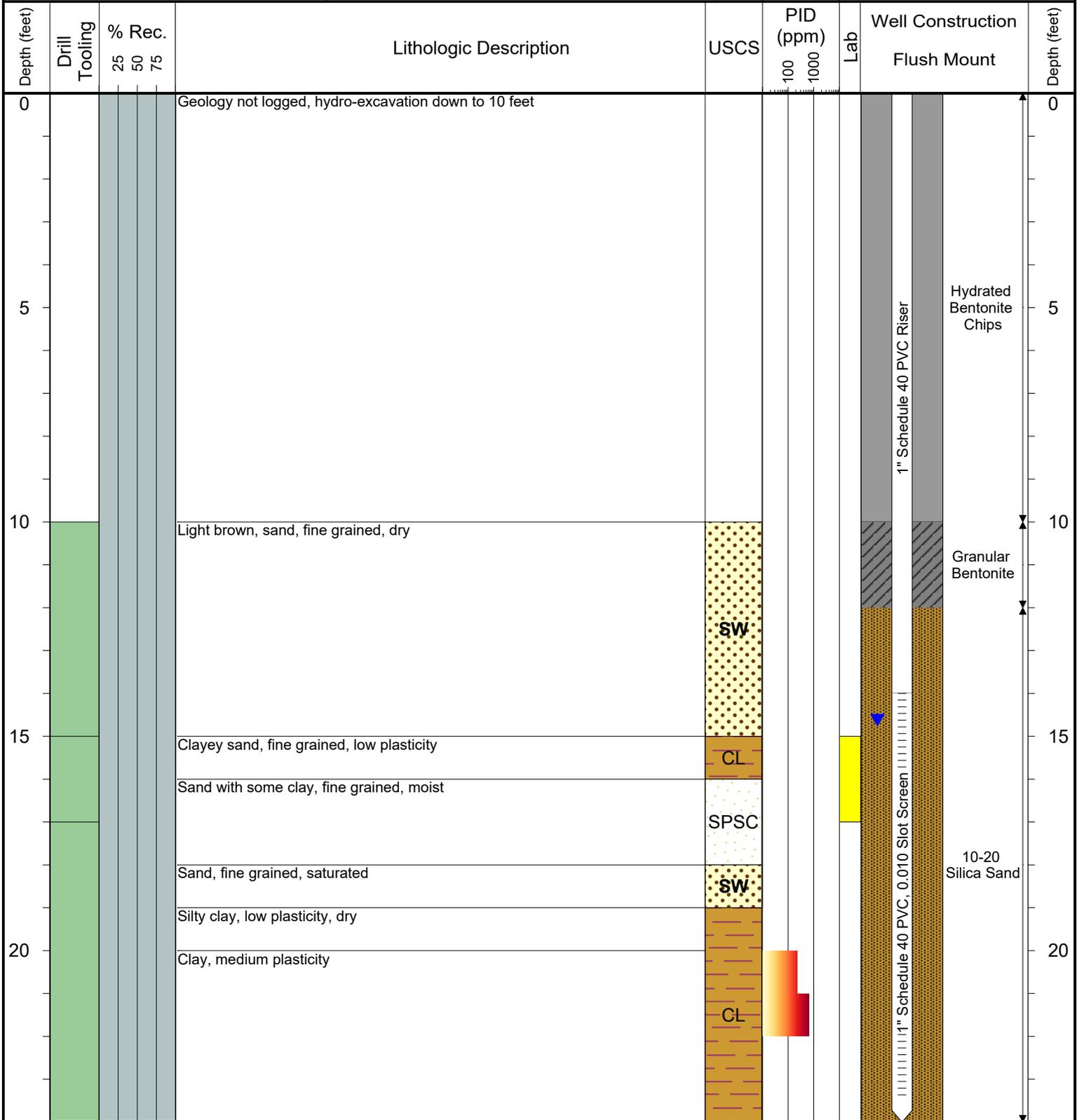
6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Brock Nelson
 PROJECT MANAGER: Bob Cornez
 DRILLING CONTRACTOR: Tasman Geosciences, LLC
 DRILLING EQUIPMENT: AMS Powerprobe 9300-SK
 DRILL BIT SIZE (INCHES): 2.75"
 DATE STARTED - COMPLETED: 3/10/2015-3/10/2015
 TOTAL WELL DEPTH (FT. BGS): 24
 DEPTH TO WATER (FT. BGS): 14.62 (3/16/16) ▼

HSR Corvi 64N66W36NWNE

BORING / WELL ID: BH05

LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 40.268800693338
 EASTING (CO STATE PLANE): -104.72324127068
 CASING ELEVATION (FT. AMSL): 4845.135
 GROUND ELEVATION (FT. AMSL): 4845.215



Drilling / Sample Method:

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

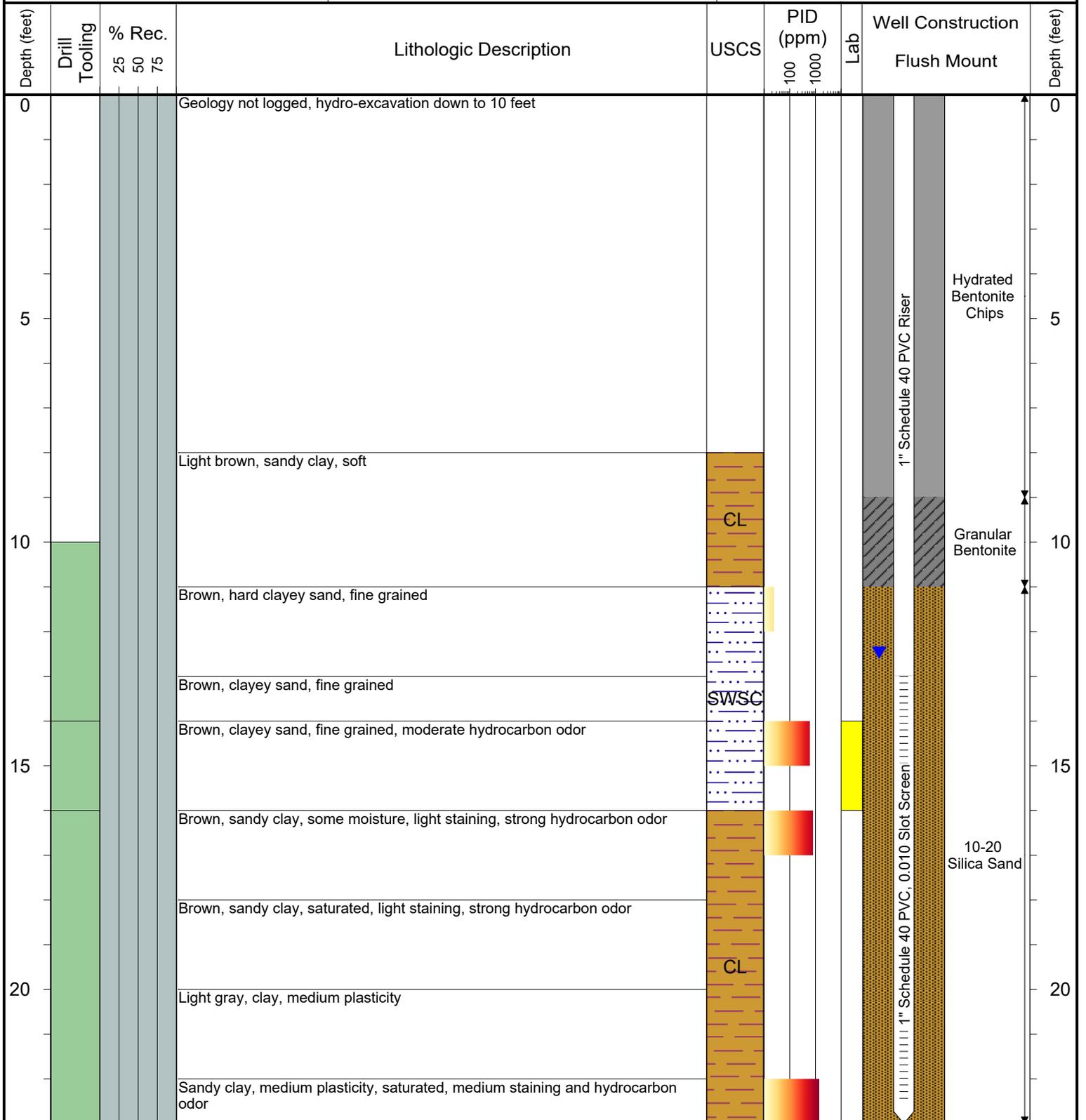
Laboratory Sample Types:

- 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	HSR Corvi 64N66W36NWNE
LOGGED BY: Brock Nelson	
PROJECT MANAGER: Bob Cornez	BORING / WELL ID: BH06
DRILLING CONTRACTOR: Tasman Geosciences, LLC	
DRILLING EQUIPMENT: AMS Powerprobe 9300-SK	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.75"	NORTHING (CO STATE PLANE): 40.268906506388
DATE STARTED - COMPLETED: 3/10/2015-3/106/2015	EASTING (CO STATE PLANE): -104.72319408929
TOTAL WELL DEPTH (FT. BGS): 23	CASING ELEVATION (FT. AMSL): 4842.915
DEPTH TO WATER (FT. BGS): 12.47 (3/16/16) ▼	GROUND ELEVATION (FT. AMSL): 4843.295



Drilling / Sample Method:		Laboratory Sample Types:	
Macro-Core	Perforated Injection Tool	Geotechnical Lab	Geotechnical & Analytical Chemistry Lab
Expendable Well Tip	HydroPunch Groundwater Sampler	Analytical Chemistry Lab	



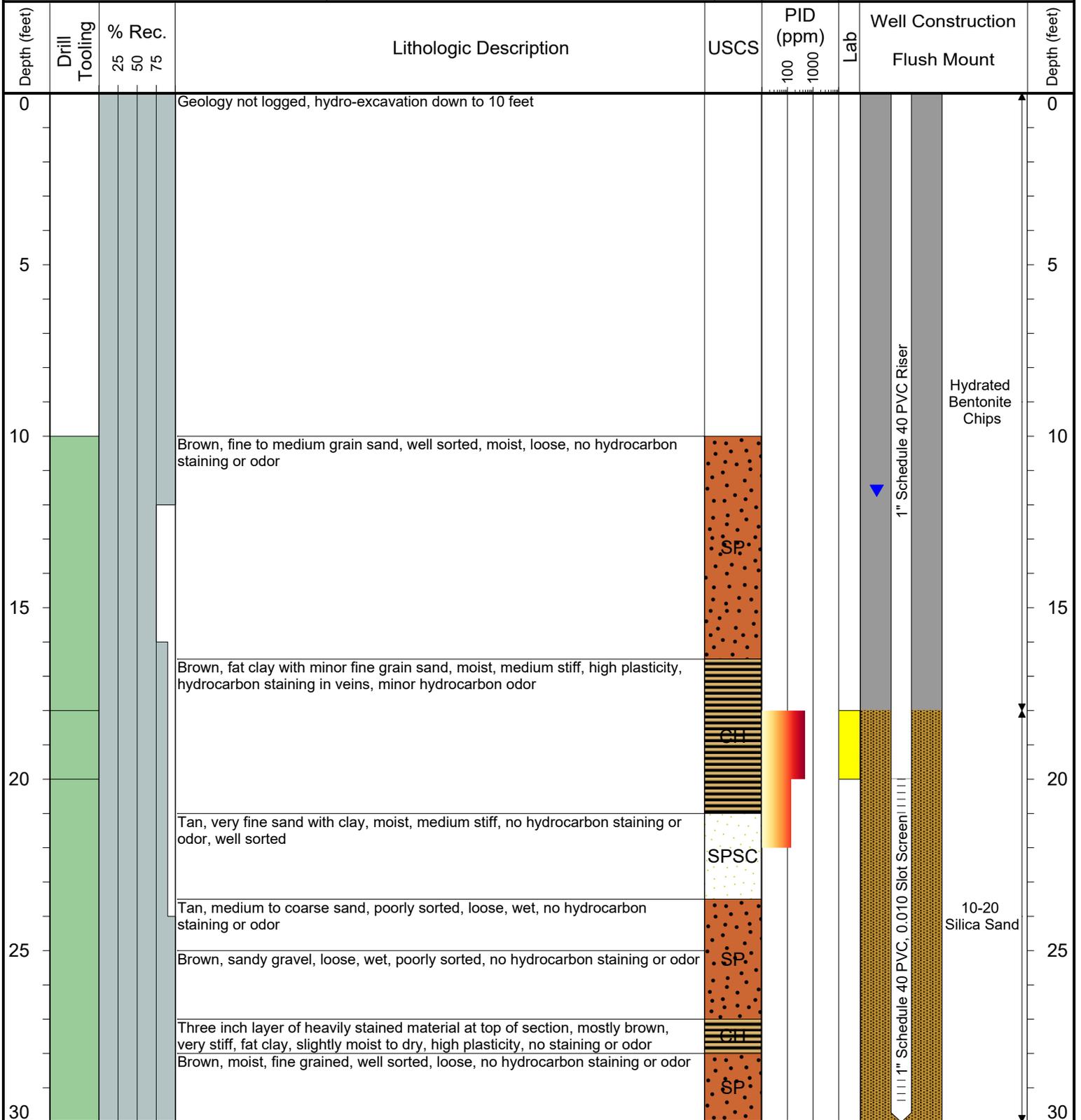
6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Kevin Walters
 PROJECT MANAGER: Bob Cornez
 DRILLING CONTRACTOR: Tasman Geosciences, LLC
 DRILLING EQUIPMENT: AMS Powerprobe 9300-SK
 DRILL BIT SIZE (INCHES): 2.75"
 DATE STARTED - COMPLETED: 8/17/2015-8/17/2015
 TOTAL WELL DEPTH (FT. BGS): 30
 DEPTH TO WATER (FT. BGS): 11.59 (3/16/16) ▼

HSR Corvi 64N66W36NWNE

BORING / WELL ID: BH07

LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 40.269141477028
 EASTING (CO STATE PLANE): -104.72316038658
 CASING ELEVATION (FT. AMSL): 4840.745
 GROUND ELEVATION (FT. AMSL): 4842.455



Drilling / Sample Method:

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

Laboratory Sample Types:

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



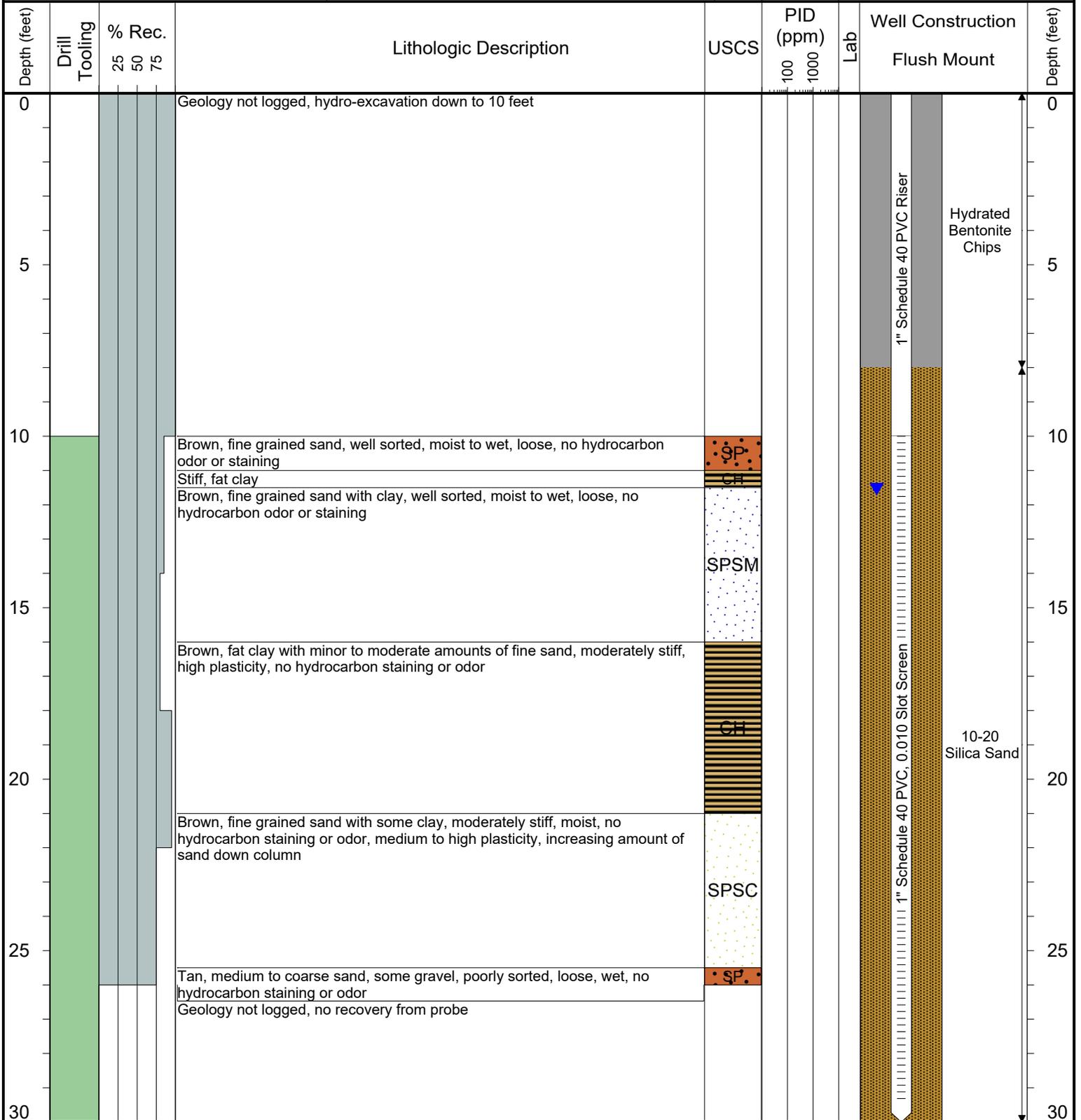
6899 Pecos Street, Unit C
Denver, Colorado 80221

CLIENT: Kerr-McGee Oil and Gas Onshore, LP
 LOGGED BY: Kevin Walters
 PROJECT MANAGER: Bob Cornez
 DRILLING CONTRACTOR: Tasman Geosciences, LLC
 DRILLING EQUIPMENT: AMS Powerprobe 9300-SK
 DRILL BIT SIZE (INCHES): 2.75"
 DATE STARTED - COMPLETED: 8/17/2015-8/17/2015
 TOTAL WELL DEPTH (FT. BGS): 30
 DEPTH TO WATER (FT. BGS): 11.54 (3/16/16) ▼

HSR Corvi 64N66W36NWNE

BORING / WELL ID: BH08

LOCATION: Weld County, Colorado
 NORTHING (CO STATE PLANE): 40.269117064789
 EASTING (CO STATE PLANE): -104.723613402
 CASING ELEVATION (FT. AMSL): 4840.495
 GROUND ELEVATION (FT. AMSL): 4840.765



Drilling / Sample Method:

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

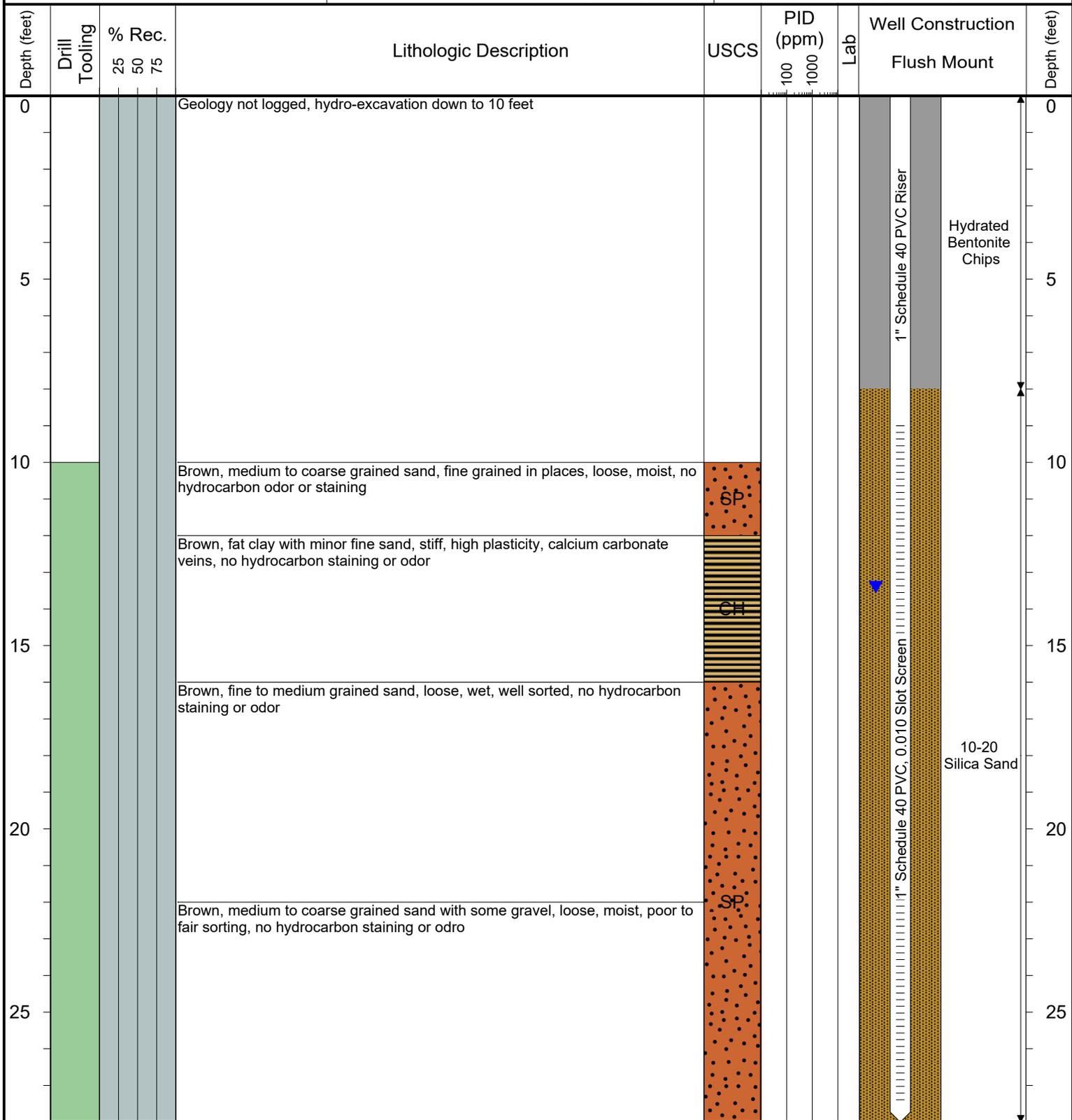
Laboratory Sample Types:

- 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	HSR Corvi 64N66W36NWNE
LOGGED BY: Kevin Walters	
PROJECT MANAGER: Bob Cornez	BORING / WELL ID: BH09
DRILLING CONTRACTOR: Tasman Geosciences, LLC	
DRILLING EQUIPMENT: AMS Powerprobe 9300-SK	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.75"	NORTHING (CO STATE PLANE): 40.268850121141
DATE STARTED - COMPLETED: 8/17/2015-8/17/2015	EASTING (CO STATE PLANE): -104.72346865335
TOTAL WELL DEPTH (FT. BGS): 28	CASING ELEVATION (FT. AMSL): 4843.565
DEPTH TO WATER (FT. BGS): 13.40 (3/16/16) ▼	GROUND ELEVATION (FT. AMSL): 4843.605



Drilling / Sample Method:

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

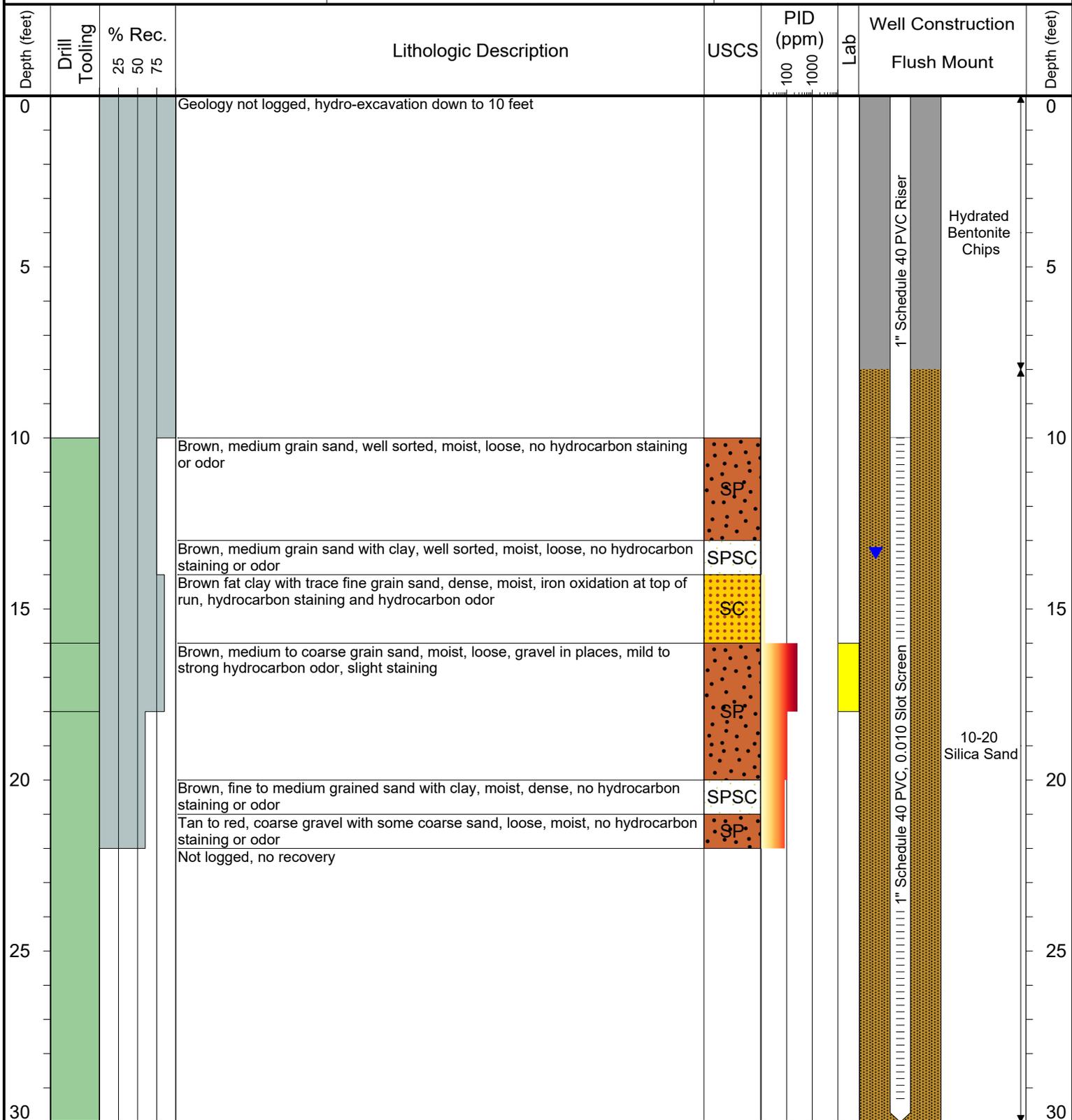
Laboratory Sample Types:

- 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	HSR Corvi 64N66W36NWNE
LOGGED BY: Kevin Walters	
PROJECT MANAGER: Bob Cornez	BORING / WELL ID: BH10
DRILLING CONTRACTOR: Tasman Geosciences, LLC	
DRILLING EQUIPMENT: AMS Powerprobe 9300-SK	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.75"	NORTHING (CO STATE PLANE): 40.268811807887
DATE STARTED - COMPLETED: 8/25/2015-8/25/2015	EASTING (CO STATE PLANE): -104.72292141975
TOTAL WELL DEPTH (FT. BGS): 30	CASING ELEVATION (FT. AMSL): 4844.615
DEPTH TO WATER (FT. BGS): 13.37 (3/16/16) ▼	GROUND ELEVATION (FT. AMSL): 4845.015



Drilling / Sample Method:

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

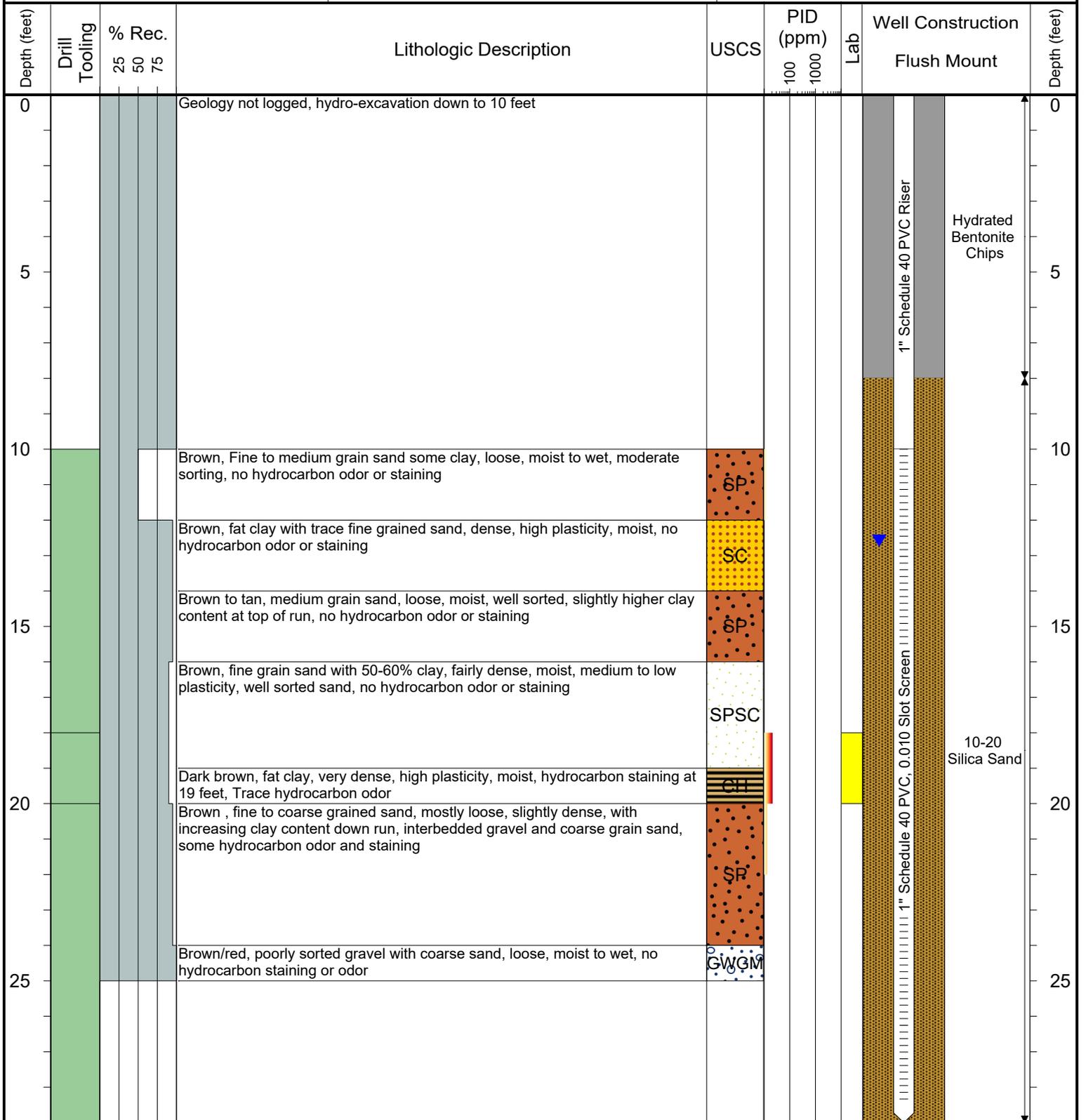
Laboratory Sample Types:

- 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	HSR Corvi 64N66W36NWNE
LOGGED BY: Kevin Walters	
PROJECT MANAGER: Bob Cornez	BORING / WELL ID: BH11
DRILLING CONTRACTOR: Tasman Geosciences, LLC	
DRILLING EQUIPMENT: AMS Powerprobe 9300-SK	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.75"	NORTHING (CO STATE PLANE): 40.269010707596
DATE STARTED - COMPLETED: 8/25/2015-8/25/2015	EASTING (CO STATE PLANE): -104.72340153944
TOTAL WELL DEPTH (FT. BGS): 29	CASING ELEVATION (FT. AMSL): 4842.175
DEPTH TO WATER (FT. BGS): 12.58 (3/16/16) ▼	GROUND ELEVATION (FT. AMSL): 4842.315



Drilling / Sample Method:		Laboratory Sample Types:	
Macro-Core	Perforated Injection Tool	Geotechnical Lab	Geotechnical & Analytical Chemistry Lab
Expendable Well Tip	HydroPunch Groundwater Sampler	Analytical Chemistry Lab	