



APTIM
6380 South Fiddlers Green, Suite 310
Greenwood Village, CO 80111
Tel: +1 303 741 7700
Fax: +1 303 741 7479

Remedial Assessment Report

Florance Gas Com J16A, 3RP-364

Florance Gas Com J16A, 3RP-364
San Juan County, New Mexico

Project 155624

November 16, 2017

OIL CONS. DIV DIST. 3
NOV 17 2017

Prepared for:



Williams Four Corners LLC

Prepared by:

APTIM Environmental & Infrastructure, Inc.

6380 South Fiddlers Green, Suite 310
Greenwood Village, CO 80111
United States
www.CBI.com

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions
listed below are made in accordance with OCD Rule 19.15.5.11

Application Type:

- ☐ P&A ☐ Drilling/Casing Change ☐ Location Change
- ☐ Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84)
- ☒ Other: C-141 proposed remediation plan Florance Gas Com J16A (Williams) 3RP-364

Conditions of Approval:

Williams submittal of the Remedial Assessment Report on a Subsequent C-141 received on November, 17, 2018 has been approved with the following conditions of approval.

- Additional ground water plume delineation in the areas surrounding MW-14, 19, and 21. completed no later than May 21, 2018.
- Williams will follow their proposed remediation plan time line with the installation of SVE equipment and must start SVE and DPE operations no later than April 27, 2018.
- Williams will maintain a SVE runtime greater than or equal to 90% per quarter.
- Williams will collect an initial gas sample for laboratory analysis shortly after the startup of SVE Operations and then a quarterly sample thereafter. The gas sample will be analyzed for EPA Method 8260 Full List and include Carbon dioxide and Oxygen.
 - The gas sample port needs to be installed prior to the inlet of the vacuum pump but, after the convergence of all sve wells.

- Williams will submit to OCD District III a quarterly update report detailing remediation operations the report will include at a minimum.
 - Summary of remediation activity for the quarter.
 - SVE run time
 - SVE mass removal and product recovery
 - DPE volume removal and product recovery
 - Amount of Liquids captured from the concrete trap/Secondary Seep tank.
 - Gas sample Analysis
- Williams will submit a typical annual ground water report to Santa Fe 3RP-364.
- OCD may request additional active remediation on any monitor well with ground water contaminates above WQCC standards at a later date.

In addition to the above conditions of approval OCD recommends that Williams utilizes either air sparging or vent wells with fans to increase oxygen levels and promote biodegradation.

If you have any questions please feel free to contact me at your leisure.



NMOCD Approved by Signature

January 26, 2018
Date

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1.0 INTRODUCTION

1.1 BACKGROUND

On October 6, 2016, the State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (OCD) issued review of prior investigation information submitted by Williams Field Services LLC (Williams) and BP America Production Company (BP) along with OCD requirements for site action at the Florance Gas Com J16A site in San Juan County, New Mexico. **Figure 1** presents a site map. Investigation data from both BP and Williams has indicated the presence of multiple locations of soil contamination at the site and potential that some of these locations could be sources of the groundwater impacts identified.

Williams' requirements include:

- Within 30 days, Williams will remediate both horizontally and vertically the area near SV-33, 34, the former below ground tank (BGT) location, and the former Public Service Company of New Mexico (PNM) earthen pit area;
- Within 30 days, Williams will start the recovery of Light Non-Aqueous Phase Liquids (LNAPL) from MW-3 or within 30 days following the excavation, Williams will drill and install a replacement well in the vicinity of MW-3 and commence the recovery of NAPL, if needed; and,
- Within 45 days Williams will provide the OCD with a Draft Groundwater Remediation plan as requested in March 2016.

With these requirements, soil excavation and treatment activities were initiated.

1.2 REMEDIAL ACTIONS

In response to these requirements, Williams and BP initiated excavation and soil treatment actions at previously identified sources. **Figure 2** shows the extent of excavation actions completed by both Williams and BP at the site.

- On October 26, 2016 Williams submitted a soil remediation work plan to OCD outlining plans for excavation and soil treatment;
- On October 28, 2016 OCD approved the soil remediation work plan;
- On November 1, 2016, Williams initiated soil excavation and treatment activities;
- On December 2, 2016 Williams submitted plans to sample, treat the excavation with MicroBlaze, and backfill;
- On December 8, 2016 OCD approved the plans with requirements to initiate any additional delineation within 30 days following BP's planned excavation and soil treatment. Within 30 days of delineation activities, Williams is required to submit a delineation report and proposed remediation plan for addressing remaining soil and groundwater impacts.
- As of December 12, 2016 Williams had excavated and treated approximately 22,100 cubic yards of soil, applied approximately 6,000 gallons of a 3% MicroBlaze to the open excavation, and completed backfill.
- On January 4, 2017, BP initiated excavation and soil treatment in areas of their operations (north).

- On January 11, 2017, BP completed additional soil boring and monitoring well installation activities at the site. Monitoring wells MW-6, 7, 8, 9, and 10 were installed. A soil boring (BH-A) was advanced east of MW-10, but subsequently not completed as a well.
- As of April 6, 2017, BP excavation activities were complete and excavated soil treatment was being completed in advance of backfill.

1.3 REMEDIAL ASSESSMENT

In email dated May 3, 2017, Williams submitted a Remedial Assessment Work Plan to NMOCD. With approval from NMOCD dated May 8, 2017, remedial assessment actions were undertaken with the following objectives:

- To horizontally and vertically delineate soils around and/or beneath the Williams excavation area where soil remediation was not completed;
- To delineate the groundwater contamination remaining following soil excavation and treatment activities;
- Collect data to support remedial planning efforts.

In May 2017, the first phase of investigation was completed and included the installation of soil borings and monitoring wells. Based upon the results of the groundwater sampling and analysis performed in June 2017, additional delineation was required. Therefore, an additional scope of work was developed and access approval from BLM was initiated.

In October 2017, following land access approval from the BLM, additional monitoring wells were installed for delineation purposes. While the results did not indicate complete delineation, this report was prepared to summarize the investigation results to date and propose a conceptual remedial approach.

2.0 REMEDIAL ASSESSMENT SCOPE

2.1 SOIL BORINGS

Soil delineation was completed through the advancement of soil borings, soil sampling, and laboratory analysis. The locations of the final borings are presented on **Figure 1**. Locations were selected based on the extent of the excavation, clearance samples passing cleanup criteria, clearance samples failing cleanup criteria, and field delineation based on observations and laboratory data.

Drilling utilized Rota-sonic methods to maximize recovery for lithology observations. Twenty-one soil borings were installed to the bedrock interface at depths ranging from 20 to 43 feet bgs (to the blue shale). The soil column from each soil boring was screened for VOC vapors using a PID and the lithology logged. At each boring location, samples were collected, at a minimum, from the interval with the highest recorded PID reading and submitted to the laboratory for BTEX analysis using method 8260B and TPH-GRO (C6-C10), TPH-DRO (C10-C20), and TPH-MRO (C28-C40) using method 8015. If PID vapor concentrations were observed greater than 1,000 ppmV in any of the borings, the boring was completed as a well for remedial and/or monitoring purposes.

Of the 21 soil borings, 18 were completed as wells for remedial or monitoring purposes. Due to the lack of observed hydrocarbon impacts, borings SB-02, 14, 20, and 21 were not completed as wells.

Soil boring logs are presented in **Appendix A**.

2.2 MONITORING WELLS

Two phases of groundwater delineation have been completed through the installation of groundwater monitoring wells and the subsequent collection of groundwater samples. The locations of the final groundwater monitoring wells installed to date are presented on **Figure 1**. Final locations were determined in the field based upon ability to safely access the locations with drilling equipment given the complex terrain.

Rota-sonic drilling methods were used in the first phase to maximize recovery for lithology observations. Standard hollow-stem auger drilling techniques were utilized during the second phase. Groundwater monitoring wells were installed to the bedrock interface at depths ranging from 17 to 43 feet bgs (blue shale). At the well pad area, wells were completed to an approximate total depth of 43 feet bgs. Down-gradient off the pad area, the wells were advanced to approximately 18 feet bgs, corresponding to the blue/grey shale unit identified during excavation.

All wells, with the exception of SB-05, SB-06, and MW-03R were completed with 10 feet of screen and either flush-mount or stick-up surface completion. SB-05 and 06 were completed with five feet of screen and MW-03R was completed with 15 feet of screen. The monitoring wells were developed to improve the hydraulic communication between the well and the surrounding formation and surveyed to the site benchmark.

Monitoring well logs are presented in **Appendix A**.

2.3 GROUNDWATER SAMPLING

Following installation and development, all available wells (wells not covered or destroyed during soil remediation activities) were gauged and sampled. Depth to groundwater (and LNAPL if present) was measured using an interface probe capable of measuring to 0.01 feet. Wells were sampled using low-flow

protocol. Groundwater samples were collected and analyzed for BTEX using method 8260B and TPH-GRO (C6-C10), TPH-DRO (C10-C20), and TPH-MRO (C28-C40) using method 8015M.

In addition, groundwater samples were collected from all monitoring wells for biological process parameters. Parameters measured in the field include oxidation-reduction potential (ORP), pH, temperature, conductivity, dissolved oxygen (DO), and ferrous iron. Additional parameters included and analyzed by the laboratory include alkalinity, nitrate, sulfate, and manganese.

3.0 REMEDIAL ASSESSMENT RESULTS

3.1 SITE GEOLOGY

The site is located on a south sloping ridge consisting primarily of sandstone with a dendritic drainage pattern. Bedrock is encountered at or near the surface at most locations outside of the excavation. The bedrock consists of eolian deposited sands and silt. The bedrock is characterized by alternating layers of brown to tan, siltstone and sandstone ranging from silt-fine sand to coarse sand varying in the degree of cementation with frequent poorly cemented to unconsolidated lenses. The formation changes in color to grayish brown, gray, and dark gray with depth particularly in areas impacted by hydrocarbons.

Two distinctive lithologic units were observed at or below the water table at most locations. These included an unconsolidated sand and a basal sandy siltstone lenses. Water was first observed in a relatively thin sand lens consisting of unconsolidated medium to coarse sand. The sand lens was typically brown in color and ranged with an average thickness of 1 to 2 feet. The unconsolidated sand lens was underlain by a bluish grey shale/siltstone unit. The two units were often separated by a brown to gray sandy siltstone.

3.2 HYDROGEOLOGY

Liquid level gauging results for the wells are summarized in **Table 1**. Based upon liquid level measurements collected in June and October 2017, potentiometric surface maps were prepared (**Figures 3 and 4**).

In June 2017, the depth to groundwater ranged from 13.24 (elevation 6462.98) to 41.24 (elevation 6465.61). Groundwater flow was to the southeast at a hydraulic gradient of 0.025. In October 2017, the depth to groundwater ranged from 13.98 (elevation 6462.24) to 40.95 (elevation 6465.84). Groundwater flow was to the southeast at a hydraulic gradient of 0.019.

The hydraulic conductivity of the formation is dependent on the distribution of fines and degree of cementation of the lithologic units. The unconsolidated coarser grained sand lenses with little silt are anticipated to have a higher hydraulic conductivity than the well-cemented sandy siltstone lens. Therefore, the medium to coarse unconsolidated sand lens observed near the water table is anticipated to have a higher transmissivity than the underlying blue-gray sandy siltstone lens.

As observed during sampling, groundwater recharge is generally slow and water column is generally less than three to four feet thick.

No changes to the potentiometric surface were observed following excavation by both parties.

3.3 SOIL DELINEATION

PID and laboratory analytical results for the soil samples are summarized in **Table 2**. Soil delineation was completed through the advancement of soil borings, soil sampling, and laboratory analysis. The locations of the final borings are presented on **Figure 1**. Locations were selected based on the extent of the excavation, clearance samples passing cleanup criteria, clearance samples failing cleanup criteria, and field delineation based on observations and laboratory data. **Figure 5** presents soil data where concentrations were observed above action levels of 50 mg/kg total BTEX and/or 100 mg/kg total petroleum hydrocarbons.

Figures 6, 7, and 8 present cross-section locations and cross-sectional detail across the Williams' excavation area.

Specific observations include:

- **Figure 5** presents analytical results above action levels of 50 mg/kg total BTEX and/or 100 mg/kg total petroleum hydrocarbons. The extent of unsaturated soil contamination above action levels appears limited to areas beneath the soils excavated with the exception of shallow TPH impacts in SB14 and MW-08 located between the Williams and BP excavations and TPH observed in soils at MW-10;
- Based upon evidence of saturation of a sand unit above the blue/grey shale unit and subsequent water level observations, it is apparent that the soil data collected represents both un-saturated and saturated soils (representative of groundwater conditions). The cross-sections on **Figures 7** and **8** show the vertical unsaturated impacts related to the excavation area as well as the saturated impacts observed in the sands above the blue/grey shale;
- During drilling, observations of LNAPL were made at SB-4 at depth. This is the only location where LNAPL was readily apparent during drilling; and,
- As supported by analytical, the blue/grey shale represents a confining unit for the hydrocarbon impacts. Concentrations at the bottom of each boring at or beneath the blue/grey shale were all below BTEX and TPH action limits indicating vertical delineation has been achieved.

3.4 GROUNDWATER DELINEATION

Groundwater delineation was performed through installation of monitoring wells and sampling of groundwater. Groundwater analytical results are presented in **Table 3**. **Figure 9** is a benzene iso-concentration map, **Figure 10** is a TPH-GRO concentration map, and **Figure 11** is a sulfate concentration map; all based on October 2017 groundwater data.

Specific observations include:

- Groundwater flow is generally to the southeast but may be influenced by local elevation changes in the blue/grey shale unit;
- With the observation of LNAPL in wells during June 2017 monitoring, LNAPL recovery efforts including bailing and absorbent sock placement were initiated;
- In June 2017, LNAPL thicknesses were observed in SB-04 (0.24'), SB-12 (1.02'), and SB-18 (0.59');
- In October 2017, LNAPL thicknesses were observed in SB-03 (0.02'), SB-04 (0.01'), SB-10 (0.01'), SB-12 (1.02'), SB-18 (0.51'), and MW-10 (0.01');
- Elevated benzene concentrations are found near and downgradient of the wells with observed LNAPL; and,
- With the exception of the benzene concentrations identified in MW-19 (390 ug/l – located down gradient to the southeast) and MW-21 (930 ug/l – located up gradient to the north), the extent of benzene concentrations has been delineated.

Petroleum hydrocarbons, under the right redox conditions, are highly biodegradable. The microorganisms that degrade hydrocarbons are ubiquitous in the environment and facilitate the transfer of electrons from donors to acceptors to ultimately form carbon dioxide, methane, and water. Common electron acceptors in these reactions, in the order of thermodynamic favorability, are dissolved oxygen, nitrate, iron (III), sulfate, and carbon dioxide. It is these relationships that provide evidence to help determine the extent to which natural attenuation processes are occurring at the site. To understand the degree of current attenuation conditions, supplemental laboratory and field analyses were performed to include sulfate, nitrate, alkalinity, ferrous iron (iron II), dissolved oxygen (DO), and oxidation-reduction potential (ORP).

Under aerobic conditions, petroleum hydrocarbons are readily degraded and the concentration of dissolved oxygen within the hydrocarbon plume will be lower than the background concentrations. The basic BTEX stoichiometry indicates that a mole ratio of 3:1 of oxygen to BTEX is required for mass removal. Dissolved oxygen is the most thermodynamically favored electron acceptor used by the microbes for the aerobic degradation of the BTEX. Anaerobic degradation of the BTEX starts when dissolved oxygen concentrations are reduced to less than 1.0 mg/L. Once the oxygen has been depleted, anaerobic degradation of the BTEX occurs and nitrate is used as an electron acceptor through denitrification. Once the nitrate has been depleted, iron is used as an electron acceptor where ferrous iron (III) is reduced to ferric iron (II), then sulfate reduction, and finally carbon dioxide reduction through methanogenesis. The actual electron acceptor to BTEX mole ratio is dependent on the stoichiometry of the reaction and site specific geochemistry of the aquifer. If a sufficient electron acceptor source is available, BTEX concentrations in the aquifer will be reduced over time. Elevated concentrations of manganese, ferrous iron and methane are all associated metabolic byproducts.

Elevated concentrations of total alkalinity are indicative of hydrocarbon biodegradation by aerobic respiration, denitrification, iron (III) reduction, and sulfate reduction. Alkalinity concentrations are influenced by carbon dioxide (CO₂) in groundwater. An increase in CO₂ can originate from the respiration of microbes and is expected to increase across a site where biological activity is occurring.

Specific site observations include:

- The DO in groundwater was measured in the field. Groundwater with less than 1.0 milligrams per liter (mg/l) of dissolved oxygen is an indicator of anaerobic degradation of petroleum hydrocarbons. DO concentrations within the benzene plume are less than 1 mg/l indicating anaerobic conditions across much of the site;
- The absence of detected nitrate across the site indicate that it is not an available electron acceptor for biodegradation;
- Iron II and dissolved manganese (both metabolic byproducts) concentrations are elevated in most locations of elevated hydrocarbons providing strong indications of anaerobic degradation;
- The areas of elevated benzene in groundwater correlate with the areas of depleted sulfate concentrations, indicating that sulfate is being utilized as an electron acceptor for biodegradation. The highest sulfate concentrations (>100 mg/l) are located to the north, hydraulically upgradient of the impacted areas; and,
- Alkalinity measurements are most elevated within the areas of highest hydrocarbon concentrations indicating biologic activity.

These data provide indications that biologic degradation of the hydrocarbons is a prevalent condition at the site that should be considered when evaluating remedial options.

4.0 REMEDIAL TESTING

Based on the investigative data collected, certain remedial testing was necessary for the evaluation and potential design of future remediation actions. With investigation results being reviewed, it is believed that vacuum extraction may be an applicable technology for site remedial action. Utilizing a vacuum truck, a vacuum is applied to an existing well to achieve total fluids recovery. A combination of air, LNAPL, and groundwater are recovered through a vacuum tube and collected in the vacuum tank.

Based on the recent assessment, a thin unconsolidated sand zone above the blue/grey shale appears to be the major mechanism of contaminant transport. Because the zone is thin and the observed water is of minimal amounts, it is believed that vacuum extraction may be applicable to promote mass removal in both the soil and groundwater.

Often in shallow wells, the well casing is used as the vacuum tube. The maximum depth a fluid can be lifted using a vacuum is typically assumed at 27 feet. Drop tubes, commonly referred to as “stingers”, are used to target LNAPL residing on the water table and increase fluid recover in deeper wells. The efficiency of the vacuum recovery is increased by using stingers by reducing the cross-sectional area of the vacuum tube. The percentage of vapor and liquid recovery can be modified by adjusting the depth of the stinger in the well. Raising the stinger increases the air flow and targets residual LNAPL saturation in the vadose zone; lowering the drop tube at or below the water table targets LNAPL residing on the water table and groundwater recovery.

4.1 WELLS FOR VACUUM TESTING AND MONITORING

In May 2017, vacuum extraction testing was conducted in wells with observed LNAPL. In May 2017, LNAPL was observed in wells SB-04 (0.65 feet), SB-12 (0.22 feet), and SB-18 (0.03 feet). In addition, MW-3 had LNAPL prior to excavation and was subsequently replaced with MW-3R. These wells also represent conditions of within the former excavation, near the former excavation, and outside the excavation.

4.2 VACUUM TEST OPERATIONS

The vacuum operations and formation was assessed to evaluate optimum vacuum versus air flow and radius of influence. The optimal vacuum for vapor extraction is that vacuum beyond which a diminishing rate of airflow with an increase of vacuum is observed. The overriding objective is to extract the greatest mass of contaminant per unit time in all combined phases. The following testing steps were performed during the vacuum testing operations:

- Measured the depth to water in each of the wells to be tested to determine the theoretical vacuum required to achieve liquid mass removal. Depths over 27 feet required bleed air to increase the air velocity to entrain water/LNAPL droplets for mass removal.
- Sufficient vacuum was applied to the well to achieve contaminant recovery and optimize mass removal in vapor and liquid (LNAPL/groundwater) phases.
- The vacuum and air flow was monitored at the test well. The vacuum and stinger depth was adjusted until optimum mass removal was achieved.
- The vacuum was monitored in selected wells adjacent to the vacuum well(s) to evaluate the radius of influence.

- The mass of contaminants removed in vapor and liquid phase was tracked. This included monitoring the vacuum truck vapor effluent using a PID and volumes of liquid recovered in LNAPL and water phases.
- Test operations were estimated at 4 hours per well or to the point of diminishing returns based on LNAPL recovery, VOCs concentrations in the effluent vapor, and the vacuum in the adjacent monitoring.

4.3 VACUUM TEST RESULTS

On June 22 and 23, 2017, vacuum extraction tests were conducted at wells SB-12, SB-18, MW-3R, and SB-04. The results of the vacuum tests are summarized below:

SB-12

- Vacuum testing was conducted at SB-12 with monitoring points including SB-11, MW-3R, and SB-13 located 45 feet, 48 feet, and 49 feet, respectively, from SB-12.
- Vacuum was applied to SB-12 through a stinger assembly from 13:12 to 15:00. Applied vacuum at the stinger ranged from 12 to 17 in Hg.
- The air flow rate at SB-12 was 336 scfm. This was calculated from data collected using a pitot tube at the vacuum of 14 in Hg and a stinger depth of 40 feet below top of casing (bTOC).
- The screened interval for SB-12 extended from 30.46 to 40.46 feet bTOC. The stinger for the test was set at 37, 38, and 40 feet bTOC. The DTW in SB-12 at the beginning of the test was 38.42 feet bTOC.
- Approximately 7 gallons of fluid were recovered during the test.
- The free product thickness decreased in SB12 from 1.09 feet prior to the test to 0.06 feet.
- The maximum change in the water level during the test was -0.48, -0.12, 0.11, and -0.23 feet at wells SB-12, SB-11, MW-3R, and SB-13, respectively.
- Vacuum was not observed in any of the monitoring wells during the vacuum test.
- VOC concentrations in the stack vent gas ranged from 9.7 ppmv early in the test to 310 ppmv at the end of the test. VOC concentrations were measured using a PID.

SB-18

- Vacuum testing was conducted at SB-18 with monitoring points including MW-12, SB-10, and SB-19 located 57 feet, 66 feet, and 80 feet, respectively, from SB-18.
- Vacuum was applied to SB-18 through a stinger assembly from 15:35 to 17:30. Applied vacuum at the stinger ranged from 13 to 20 in Hg.
- An air flow of 172.0 cfm was measured from the stinger early on in the test using thermos-anemometer. No air flow was detected in the later portions of the test as determined from data collected using a pitot tube.
- The screened interval for SB-18 extended from 33.00 to 43.00 feet bTOC. The stinger for the test was set at 38.5 feet bTOC. The DTW and DTP in SB18 at the beginning of the test were 40.52 and 41.50 feet bTOC, respectively.

- Approximately 18 gallons of fluid were recovered during the test.
- The free product thickness decreased in SB-18 from 0.98 feet prior to the test to 0.14 feet.
- The maximum change in the water level during the test was -0.45, -0.42, -0.08, and -0.11 feet at wells SB-18, MW-12, SB-10, and SB-19, respectively.
- Maximum vacuums of 6.8, 5.8, and 3.4 inches of water column (IWC) were observed in wells MW-12, SB-10, and SB-19, respectively, in the later portions of the vacuum test.
- VOC concentrations in the stack vent gas ranged from 1,097 ppmv early in the test to 95.1 ppmv at the end of the test.

MW-3R

- Vacuum testing was conducted at well MW-3R with monitoring points including SB-07, SB-05, SB-09, SB-12, SB-06, SB-08, and SB-11 located 36 to 54 feet from MW-3R.
- Vacuum was applied to MW-3R through a stinger assembly from 10:25 to 12:30. Applied vacuum at the stinger ranged from 33 to 37 in Hg.
- An air flow rate of 117 scfm was measured at MW-3R midway through the test. This was calculated from data collected using a pitot tube at the vacuum of 14 in Hg and a stinger depth of 33 feet bTOC.
- The screened interval for well MW-3R extended from 25.52 to 40.52 feet bTOC. The stinger for the test was set at 33 to 37 feet bTOC. The DTW in MW-3R at the beginning of the test were 33.92 feet bTOC.
- Approximately 8 gallons of fluid were recovered during the test.
- No free product was observed in MW-3R.
- The maximum change in the water level during the test was -3.01, -0.32, 2.15, -0.52, -0.1, -0.1, -0.4, and -0.13 feet at wells MW-3R, SB-07, SB-05, SB-09, SB-12, SB-06, SB-08, and SB-11, respectively.
- Maximum vacuums of 9.2, 4.7, 11.6, 2.8, 5.3, 11.01, and 4.2 IWC were observed in wells SB-07, SB-05, SB-09, SB-12, SB-06, SB-08, and SB-11, respectively, in the later portions of the vacuum test.
- VOC concentrations in the stack vent gas ranged from 35.2 ppmv early in the test to 237 ppmv near the end of the test. VOC concentrations were measured using a PID.

SB-04

- Vacuum testing was conducted at SB12 with monitoring points including MW-6, SB-03, SB-05, SB-15, SB-12, and SB-16 located 32 feet, 47, 61 feet, 74 feet, 78 feet, and 85 feet from well SB04, respectively.
- Vacuum was applied to SB0-4 through a stinger assembly from 14:10 to 17:30. Applied vacuum at the stinger ranged from 7 to 14 in Hg.
- An air flow of 134.2 cfm was measured from the stinger early on in the test using thermos-anemometer. No air flow was detected in the later portions of the test as determined from data collected using a pitot tube.

- The screened interval for SB-04 extended from 23.38 to 33.38 feet bTOC. The stinger for the test was set at 30 to 33.38 feet bTOC. The DTW and DTP in SB04 at the beginning of the test were 29.50 and 29.21 feet bTOC, respectively.
- Approximately 124 gallons of fluid were recovered during the test.
- The free product thickness decreased in SB048 from 0.29 feet prior to the test to 0.05 feet.
- The maximum change in the water level during the test was -0.10, -0.13, 0.06, -0.02, 0.17, and 0.55 feet at wells MW-6, SB-03, SB-05, SB-15, SB-12, and SB-16, respectively.
- Maximum vacuums of 0, 0.5, 0, 0.1, 0.1, and 0 IWC were observed in wells MW-6, SB-03, SB-05, SB-15, SB-12, and SB-16, respectively, early in the vacuum test.
- VOC concentrations in the stack vent gas ranged from 210 ppmv early in the test to 107 ppmv later in the test. VOC concentrations were measured using a PID.

These preliminary tests indicate that vacuum extraction may be a promising technology to remediate residual hydrocarbons in the both the vadose zone and shallow phreatic zone. Most of the observed residual hydrocarbons reside in the unconsolidated sand coinciding with the observed water table. The removal of both vapor and liquid phases would provide both hydraulic control and mass removal. In addition, the introduction of oxygenated air will promote aerobic biodegradation of the residual hydrocarbons. Recovery of groundwater and LNAPL, where present, was achieved at all four of the extraction wells during the pilot tests.

The low hydraulic conductivity of the overlying sandstone limited the vertical transfer of air (flow) in response to the applied vacuum in wells beyond the excavation area. This was observed at most of the test locations where vacuum was achieved, but flow was limited in the later stages of the test. With extended test duration and wellfield extraction effects, flow would likely occur as the unconsolidated sands are dewatered.

Flow and vacuum results were observed at well MW-3R which is located within the limits of the excavation. The overlying confining unit was excavated at this location and replaced with more permeable soils which allowed the vertical flow of air through the formation in response to the applied vacuum.

5.0 PROPOSED REMEDIAL APPROACH

The proposed remedial approach uses a combination of soil vapor extraction (SVE), dual-phase extraction (DPE), and biodegradation to address 1) unsaturated soil TPH contamination, 2) subsurface LNAPL, and 3) contaminated groundwater.

- Existing remedial and monitoring points are constructed to allow for use as SVE points and will be utilized to pull vacuum across those unsaturated soils with contamination above BTEX and/or TPH standards;
- Existing remedial and monitoring points are constructed to allow for use as DPE points and will be utilized to pull vacuum across those saturated sands to remove LNAPL and groundwater with contamination above BTEX and/or TPH standards; and,
- Pulling air with oxygen into the saturated zone will enhance aerobic biodegradation of hydrocarbons in groundwater.

A conceptual remedial layout is presented as **Figure 12**. Conceptually, the layout in **Figure 12** presents utilization of remedial wells with effective radius of influence (ROI) of 35 feet.

5.1 PILOT TEST

The final strategy and system layout will reply upon details to be determined from a formal pilot test. Data from the pilot test will be used to:

- Determine effective ROI for both SVE and DPE;
- Determine the required vacuum to achieve the ROI so equipment can be sized appropriately;
- Determine the anticipated air flow so equipment can be sized appropriately; and,
- Determine the anticipated fluid generation rates so knockout equipment can be sized appropriately.

Pilot testing will be performed on several wells over an extended duration to provide best estimates of fluid generation. Specifically, one test on a grouping of SB-04, MW-06, and SB-12 will be performed followed by a test on SB-10, SB-18, and MW-12. Each grouping of wells represents different conditions in relation to the excavation area. One week of field pilot testing is anticipated.

5.2 PERMITTING

Based upon concentrations in soil and groundwater, the calculated potential to emit is below permitting thresholds and therefore, no formal permitting is anticipated.

5.3 CONSTRUCTION

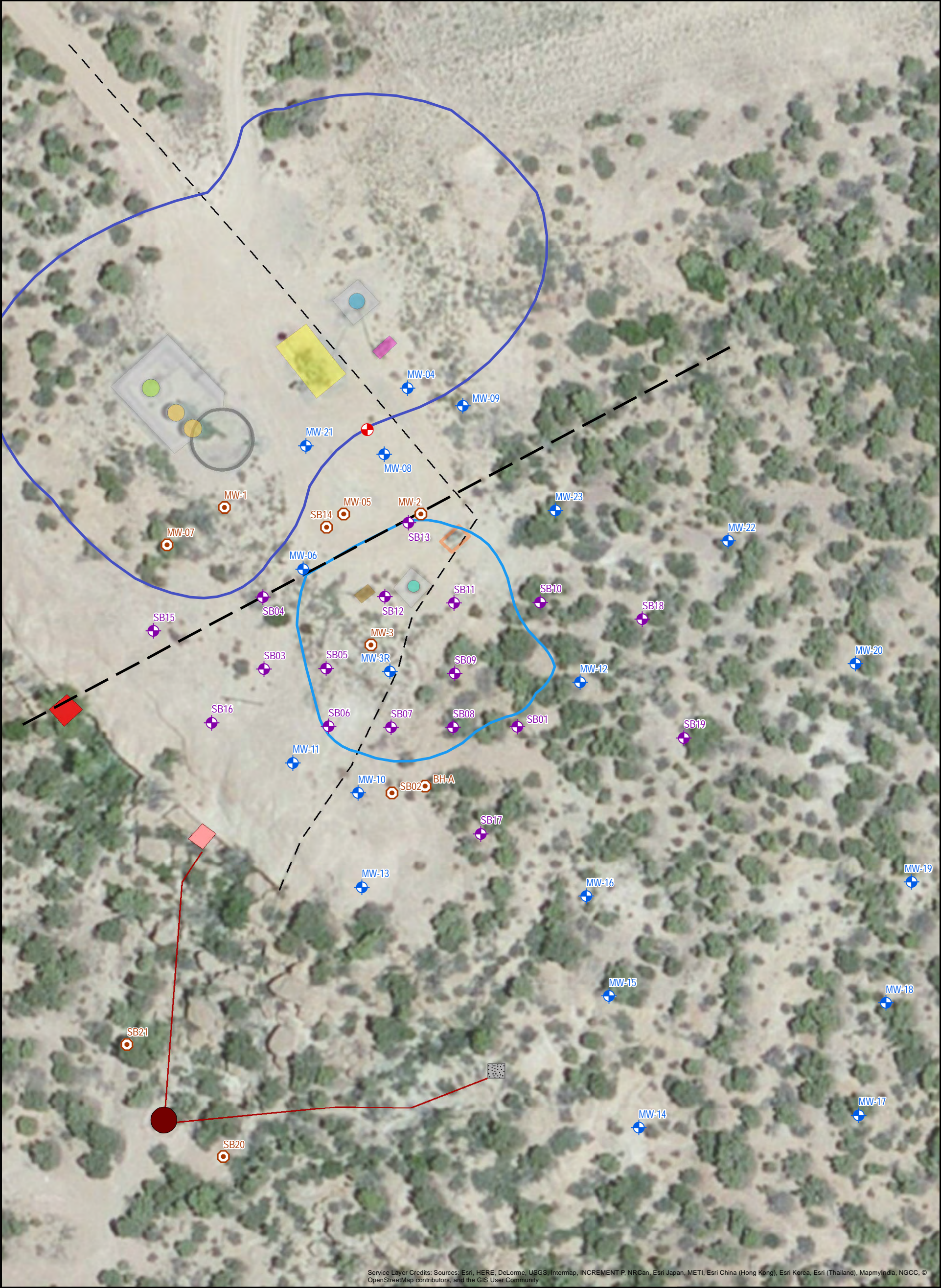
Following pilot testing, final design will be completed and equipment procurement initiated. Major milestones anticipated with anticipated duration from regulatory approval to system startup include:

- Pilot Testing – 1 week;
- Final Design – 2 weeks;
- Equipment procurement – 2-4 weeks (depending on equipment availability);
- System Install (power, plumbing) – 2 weeks;

- Startup.

Routine product recovery activities will continue until the system is procured, installed and operational.

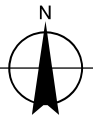
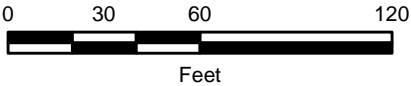
Figures



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Legend

- | | | |
|---------------------------------|-------------------------|-------------------------------|
| Well Head | 95 BBL Remediation Tank | Former Separator |
| Monitor Well | Concrete Trap | Former Steel Containment Ring |
| Remediation Well | Main Seep | Former Meter |
| Abandoned Borehole | Secondary Seep | |
| BP Excavation Limits | Former Product Tank | |
| Williams Excavation Limits | Former 45 BBL Tank | |
| Remediation Collection Line | Former 95 BBL Tank A | |
| WFS Line | Former 95 BBL Tank B | |
| Responsibility Demarcation Line | Former Compressor | |
| | Former Dehydrator | |



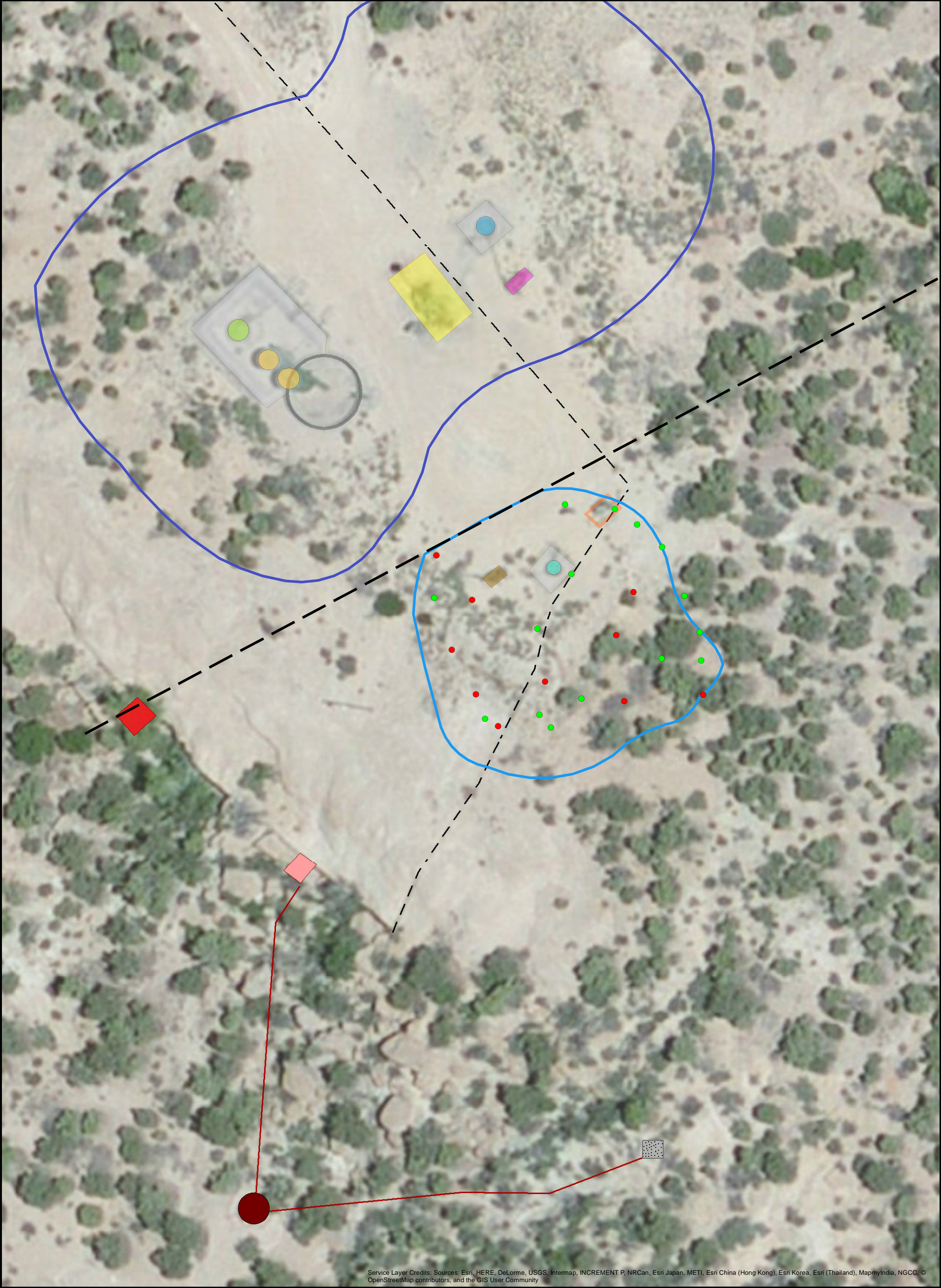
WILLIAMS FOUR CORNERS LLC

FIGURE
NUMBER
1

**FLORANCE GC J 16A
SITE MAP**



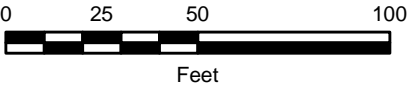
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Legend

- | | | |
|-----------------------------------|------------------------|---------------------------------|
| ● Excavation Soil Sample (Pass) | ■ Main Seep | □ Former Steel Containment Ring |
| ● Excavation Soil Sample (Fail) | ■ Secondary Seep | □ Former Meter |
| — BP Excavation Limits | ■ Former Product Tank | |
| — Williams Excavation Limits | ■ Former 45 BBL Tank | |
| — Remediation Collection Line | ■ Former 95 BBL Tank A | |
| — WFS Line | ■ Former 95 BBL Tank B | |
| — Responsibility Demarcation Line | ■ Former Compressor | |
| ● 95 BBL Remediation Tank | ■ Former Dehydrator | |
| ■ Concrete Trap | ■ Former Separator | |



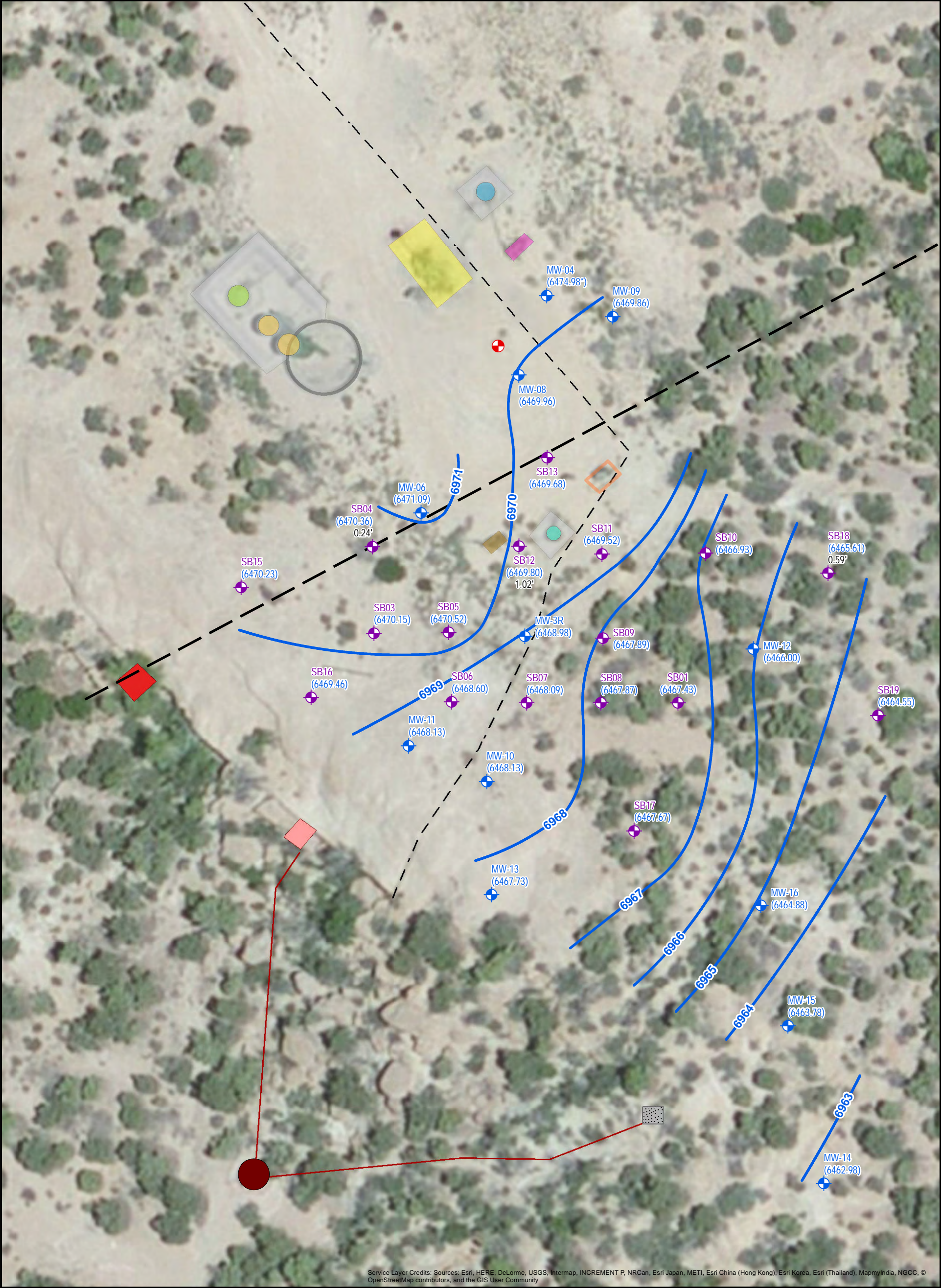
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FIGURE
NUMBER
2

**FLORANCE GC J 16A
EXCAVATION LIMITS**

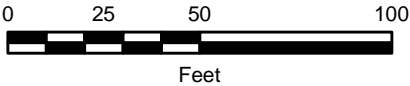
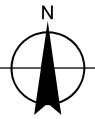


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Legend

- | | | | | | |
|--|---------------------------------|--|----------------------|--|--------------------------------------|
| | Well Head | | Main Seep | | Former Steel Containment Ring |
| | Monitor Well | | Secondary Seep | | Former Meter |
| | Remediation Well | | Former Product Tank | | (6468.13) Groundwater Elevation (ft) |
| | Groundwater Contour (ft) | | Former 45 BBL Tank | | 0.59' Product Thickness (ft) |
| | Remediation Collection Line | | Former 95 BBL Tank A | | * Not Used for Contouring |
| | WFS Line | | Former 95 BBL Tank B | | |
| | Responsibility Demarcation Line | | Former Compressor | | |
| | 95 BBL Remediation Tank | | Former Dehydrator | | |
| | Concrete Trap | | Former Separator | | |



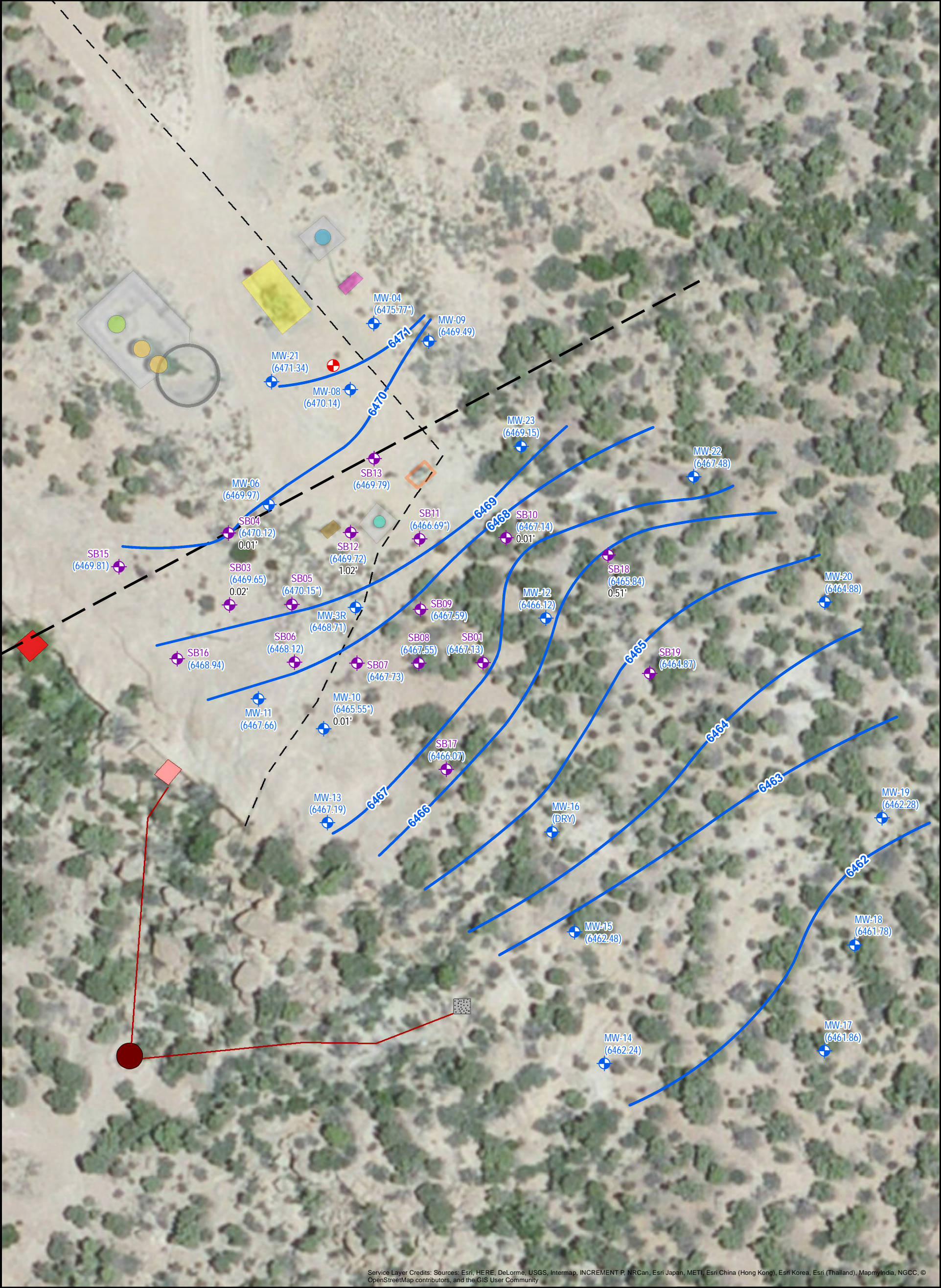
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FIGURE
NUMBER
3

FLORANCE GC J 16A
POTENTIOMETRIC SURFACE
(JUNE 14, 2017)



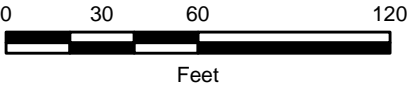
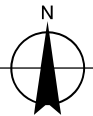
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Legend

- | | | | | | |
|--|---------------------------------|--|----------------------|--|--------------------------------------|
| | Well Head | | Main Seep | | Former Steel Containment Ring |
| | Monitor Well | | Secondary Seep | | Former Meter |
| | Remediation Well | | Former Product Tank | | (6469.65) Groundwater Elevation (ft) |
| | Groundwater Contour (ft) | | Former 45 BBL Tank | | 0.51' Product Thickness (ft) |
| | Remediation Collection Line | | Former 95 BBL Tank A | | * Not Used for Contouring |
| | WFS Line | | Former 95 BBL Tank B | | |
| | Responsibility Demarcation Line | | Former Compressor | | |
| | 95 BBL Remediation Tank | | Former Dehydrator | | |
| | Concrete Trap | | Former Separator | | |



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FIGURE
NUMBER

4

**FLORANCE GC J 16A
POTENTIOMETRIC SURFACE
(OCTOBER 2017)**



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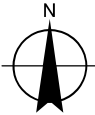
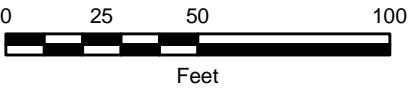


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Legend

- | | | |
|---------------------------------|-------------------------|-------------------------------|
| Well Head | 95 BBL Remediation Tank | Former Separator |
| Monitor Well | Concrete Trap | Former Steel Containment Ring |
| Remediation Well | Main Seep | Former Meter |
| Abandoned Borehole | Secondary Seep | TPH Unsaturated Soils |
| TPH Contour (mg/kg) | Former Product Tank | TPH Saturated Soils |
| BP Excavation Limits | Former 45 BBL Tank | |
| Williams Excavation Limits | Former 95 BBL Tank A | |
| Remediation Collection Line | Former 95 BBL Tank B | |
| WFS Line | Former Compressor | |
| Responsibility Demarcation Line | Former Dehydrator | |

Note: Data from MW-06, MW-08, and MW-10 collected by Blagg Engineering in January 2017



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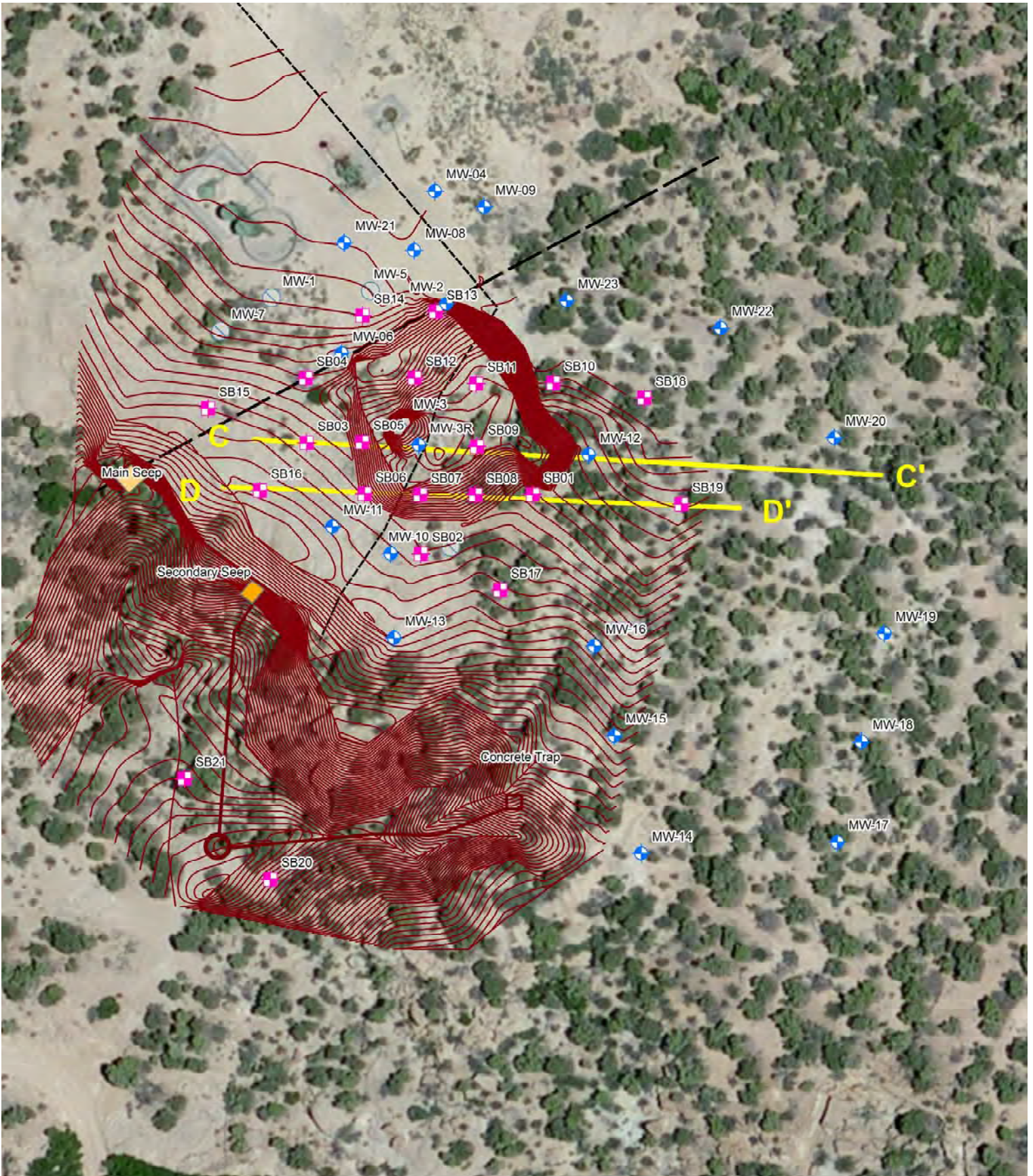
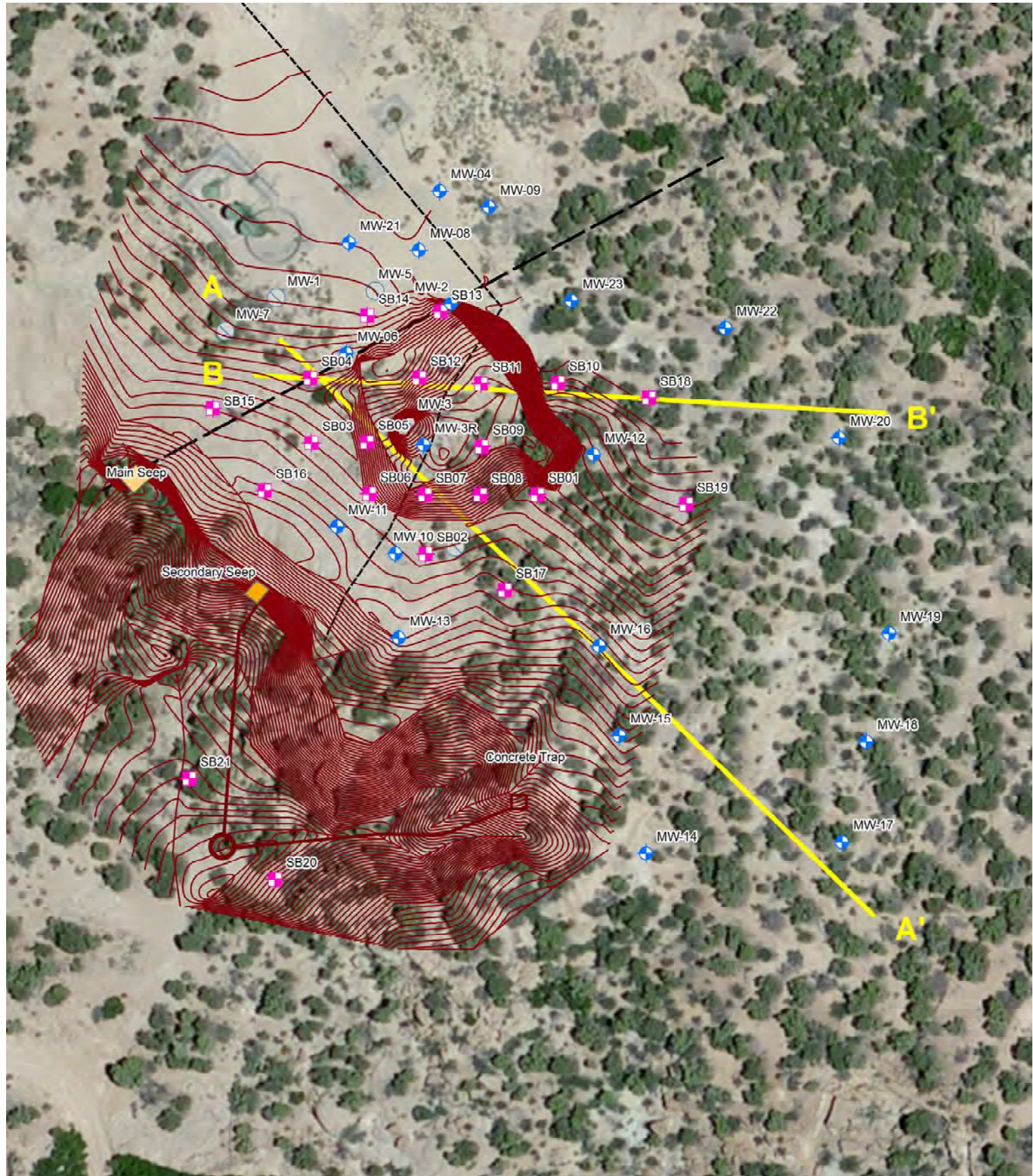
FIGURE NUMBER

5

**FLORANCE GC J 16A
SOIL ANALYTICAL MAP
(JANUARY - MAY 2017)**



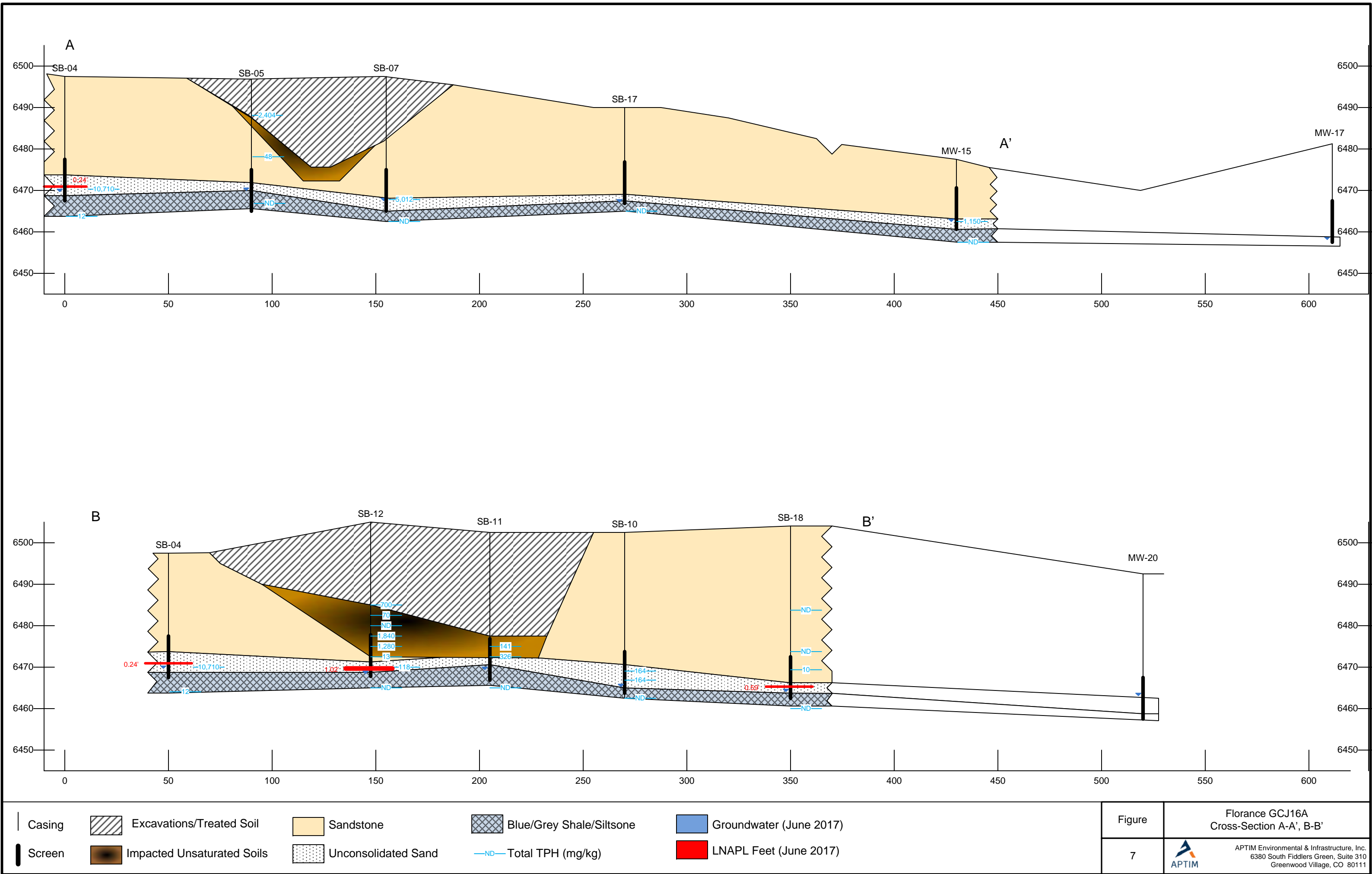
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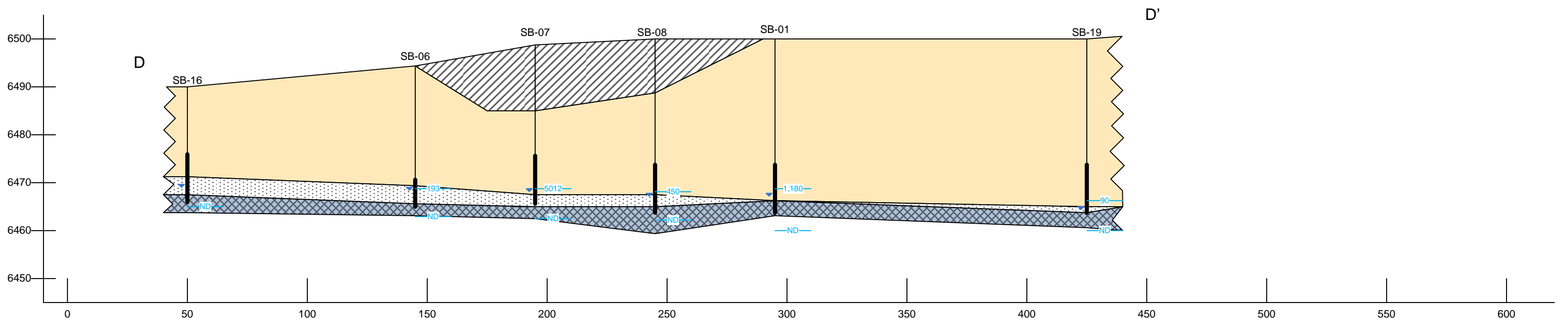
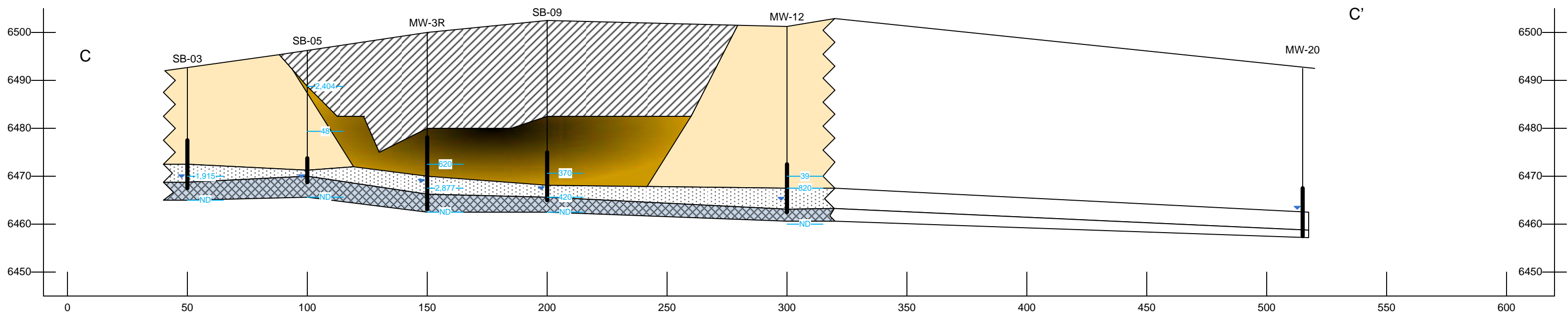


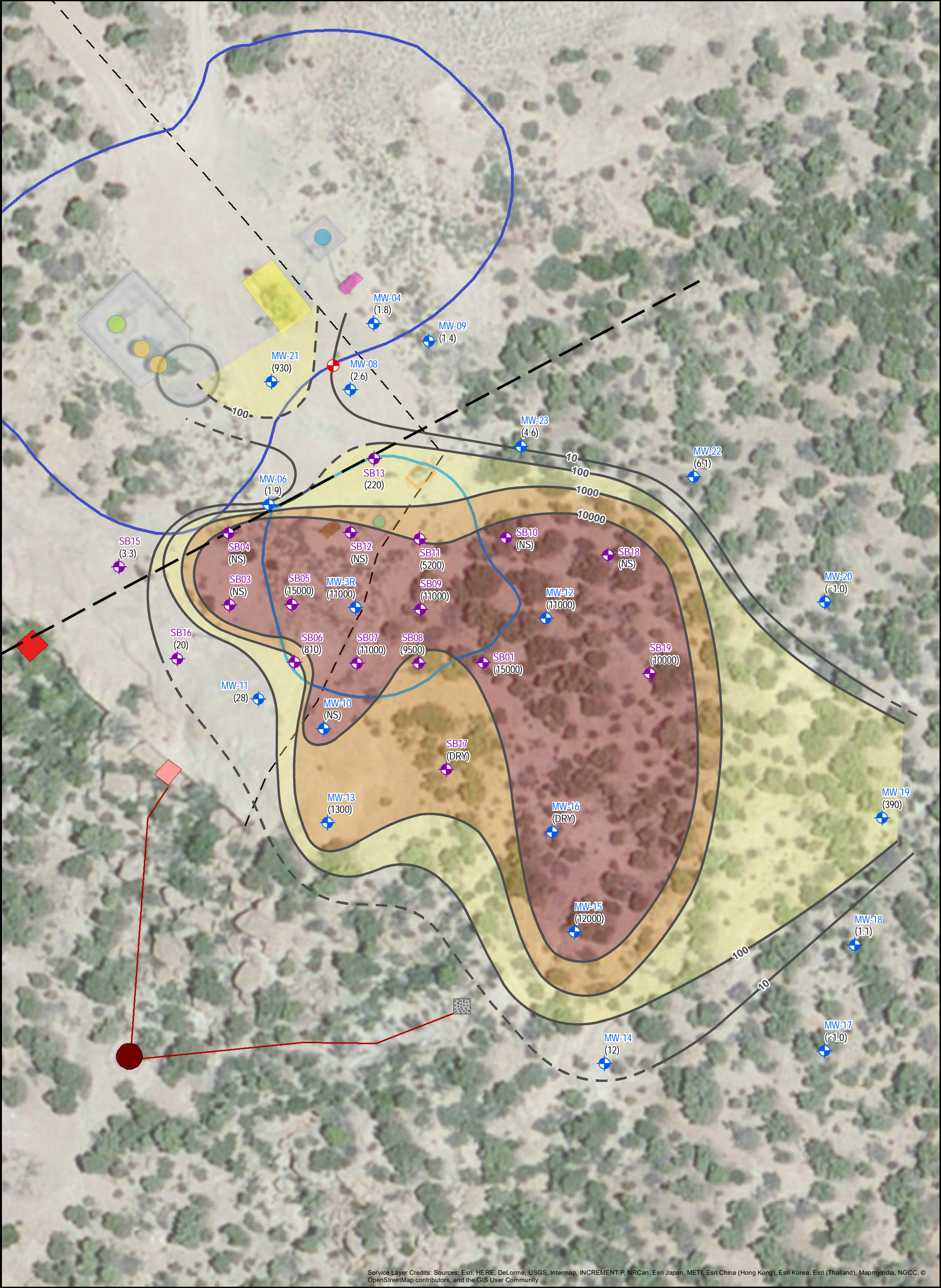
Figure

Florance GCJ16A
Cross-Section Locations
A-A', B-B', C-C', D-D'





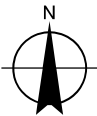
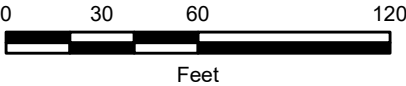




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Legend

- | | | |
|---------------------------------|-------------------------|------------------------------------|
| Well Head | 95 BBL Remediation Tank | Former Dehydrator |
| Monitor Well | Concrete Trap | Former Separator |
| Remediation Well | Main Seep | Former Steel Containment Ring |
| Benzene Contour (µg/L) | Secondary Seep | Former Meter |
| BP Excavation Limits | Former Product Tank | (930) Benzene Concentration (µg/L) |
| Williams Excavation Limits | Former 45 BBL Tank | |
| Remediation Collection Line | Former 95 BBL Tank A | |
| WFS Line | Former 95 BBL Tank B | |
| Responsibility Demarcation Line | Former Compressor | |



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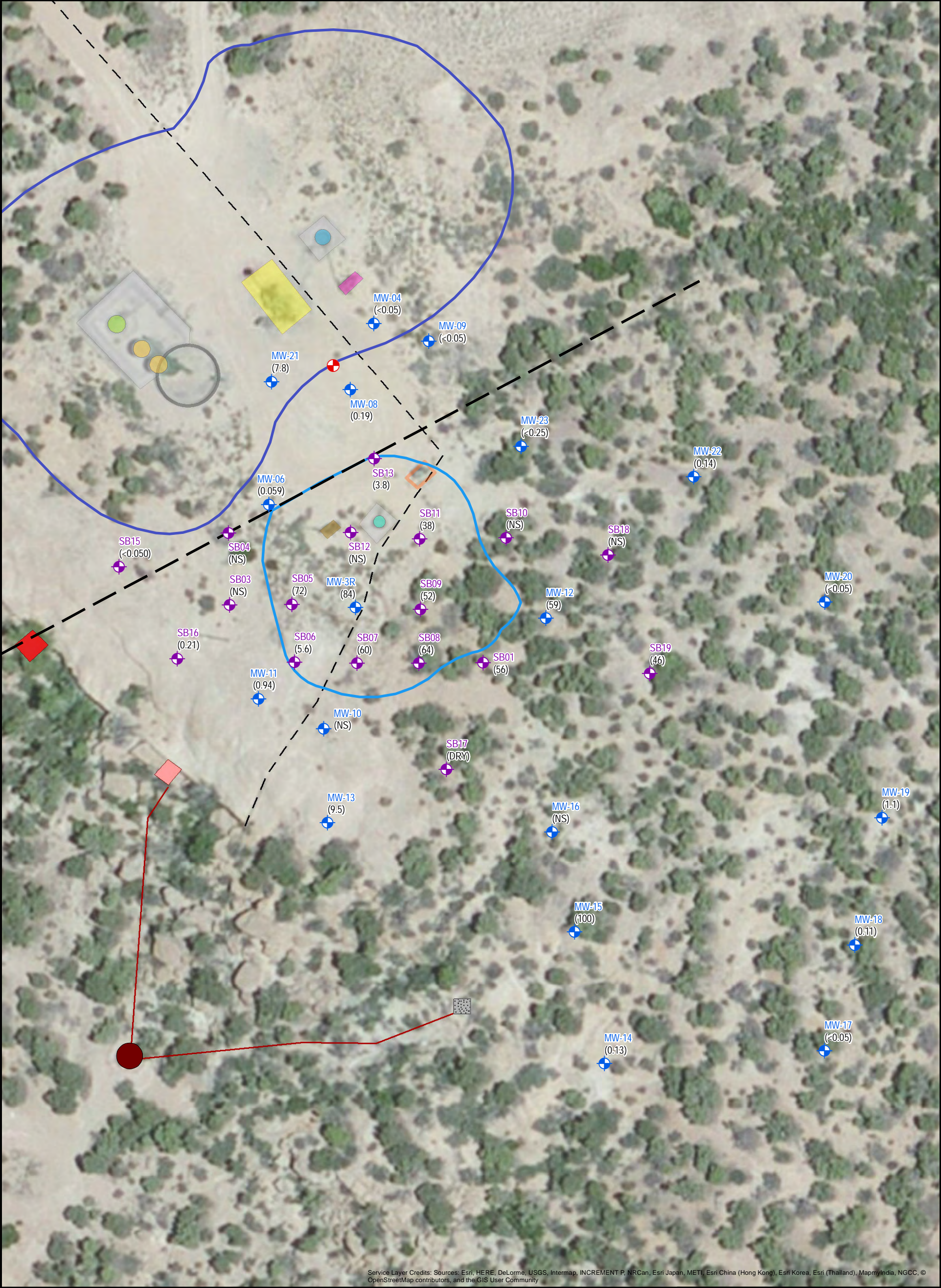
FIGURE
NUMBER

9

**FLORANCE GC J 16A
BENZENE CONCENTRATIONS
IN GROUNDWATER
(OCTOBER 15-23 2017)**



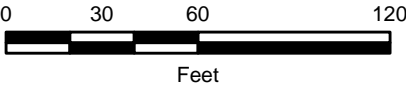
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Legend

- | | | | | | |
|--|---------------------------------|--|----------------------|--|------------------------------------|
| | Well Head | | Concrete Trap | | Former Separator |
| | Monitor Well | | Main Seep | | Former Steel Containment Ring |
| | Remediation Well | | Secondary Seep | | Former Meter |
| | BP Excavation Limits | | Former Product Tank | | (7.8) TPH-GRO Concentration (mg/L) |
| | Williams Excavation Limits | | Former 45 BBL Tank | | |
| | Remediation Collection Line | | Former 95 BBL Tank A | | |
| | WFS Line | | Former 95 BBL Tank B | | |
| | Responsibility Demarcation Line | | Former Compressor | | |
| | 95 BBL Remediation Tank | | Former Dehydrator | | |



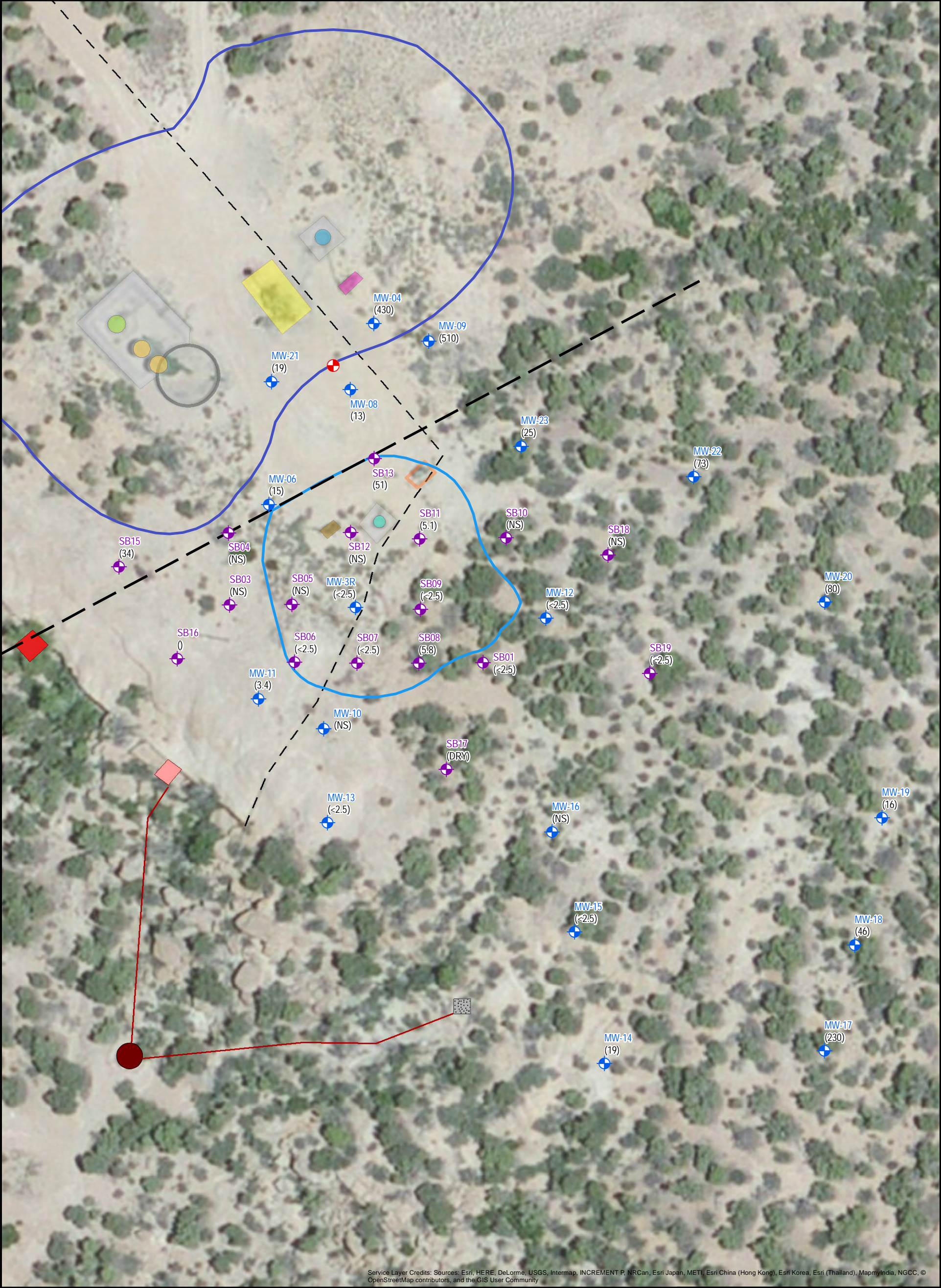
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FIGURE
NUMBER
10

**FLORANCE GC J 16A
TPH-GRO CONCENTRATIONS
IN GROUNDWATER
(OCTOBER 15-23 2017)**

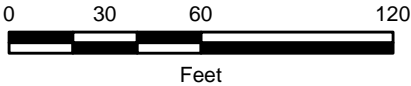
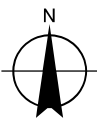


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Legend

- | | | | | | |
|--|---------------------------------|--|----------------------|--|-------------------------------|
| | Well Head | | Concrete Trap | | Former Separator |
| | Monitor Well | | Main Seep | | Former Steel Containment Ring |
| | Remediation Well | | Secondary Seep | | Former Meter |
| | BP Excavation Limits | | Former Product Tank | | Sulfate Concentration (mg/L) |
| | Williams Excavation Limits | | Former 45 BBL Tank | | |
| | Remediation Collection Line | | Former 95 BBL Tank A | | |
| | WFS Line | | Former 95 BBL Tank B | | |
| | Responsibility Demarcation Line | | Former Compressor | | |
| | 95 BBL Remediation Tank | | Former Dehydrator | | |



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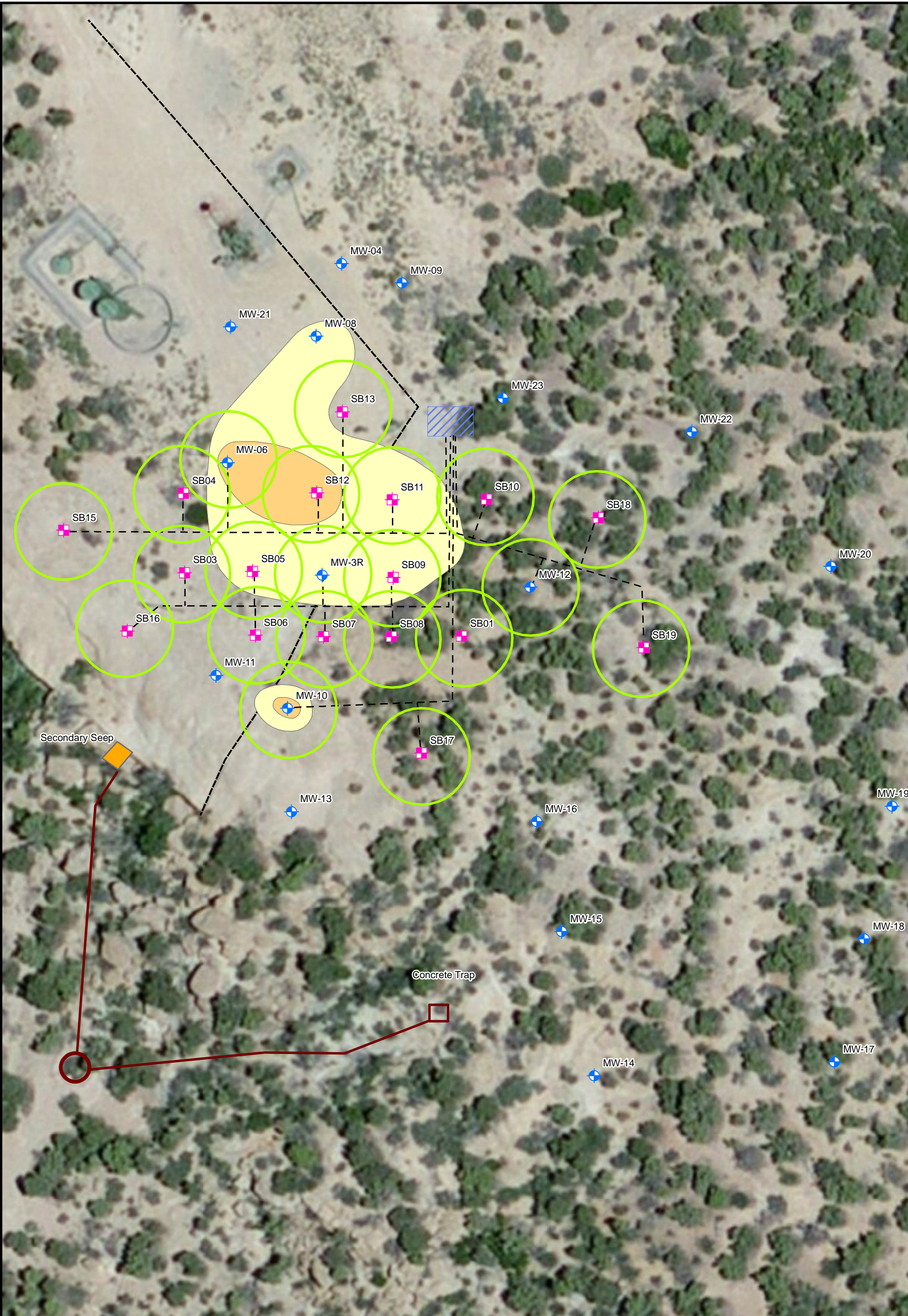
FIGURE
NUMBER

11

**FLORANCE GC J 16A
SULFATE CONCENTRATIONS
IN GROUNDWATER
(OCTOBER 15-23 2017)**

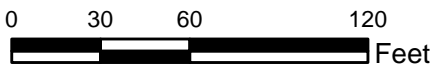
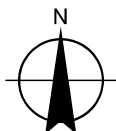


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Legend

- Monitoring Well
- Remediation Well
- 35 ft ROI
- System Piping
- SVE DPE System
- TPH > 100 mg/kg
- TPH > 1,000 mg/kg
- Main Seep
- Secondary Seep
- Concrete Trap
- 95 BBL BGT Remediation Tank



Williams Four Corners LLC

FLORANCE GC J 16A
CONCEPTUAL REMEDIAL LAYOUT

Figure
12



Aptim Environmental & Infrastructure, Inc.
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Greenwood Village, CO 80111

Tables

Table 1
Florance GC J#16A
Liquid Level Gauging Data

ID.	LAT	LONG	Top of Casing Elevation	Top of Screen	Total Depth	Depth to GW	Depth to Product	Product Thickness	Corrected GW Elevation	Depth to GW	Depth to Product	Product Thickness	Corrected GW Elevation
			(ft AMSL)	(ft AMSL)	(ft AMSL)	(ft below TOC)	(ft below TOC)	(ft)	(ft AMSL)(1)	(ft below TOC)	(ft below TOC)	(ft)	(ft AMSL)(1)
						3/3/2017				5/20/2017			
SB01	2123233.002	2728200.600	6501.96	6473.64	6463.64					34.58			6467.38
SB03	2123269.926	2728038.769	6495.01	6476.71	6466.71					24.90			6470.11
SB04	2123316.063	2728038.043	6499.61	6476.23	6466.23					29.82	29.17	0.65	6470.31
SB05	2123270.460	2728078.479	6498.76	6478.25	6468.25					28.27			6470.49
SB06	2123233.425	2728080.101	6496.12	6474.79	6464.79					27.43			6468.69
SB07	2123232.771	2728119.973	6500.29	6474.83	6464.83					32.15			6468.14
SB08	2123232.770	2728159.536	6502.25	6472.85	6462.85					34.41			6467.84
SB09	2123267.217	2728160.609	6504.18	6474.80	6464.80					36.31			6467.87
SB10	2123312.675	2728215.233	6506.04	6474.64	6464.64					39.27			6466.77
SB11	2123312.170	2728160.145	6505.61	6476.15	6466.15					36.15			6469.46
SB12	2123316.247	2728116.008	6508.42	6477.96	6467.96					38.84	38.62	0.22	6469.76
SB13	2123363.400	2728131.044	6504.89	6477.48	6467.48					35.26			6469.63
SB15	2123294.383	2727968.105	6494.31	6477.86	6467.86					24.11			6470.20
SB16	2123235.816	2728005.339	6492.07	6475.60	6465.60					22.54			6469.53
SB17	2123164.880	2728177.241	6492.57	6475.96	6465.96					24.91			6467.66
SB18	2123301.913	2728280.440	6506.38	6473.38	6463.38					40.92	40.89	0.03	6465.48
SB19	2123226.216	2728307.032	6503.99	6472.33	6462.33					39.54			6464.45
MW-3R	2123268.428	2728119.127	6502.86	6477.34	6462.34					33.86			6469.00
MW-04	2123449.546	2728130.519	6508.05							NM			
MW-06	2123333.914	2728063.780	6503.13	6475.13	6465.13	33.58			6469.55	NM			
MW-08	2123407.289	2728115.661	6504.74	6474.94	6464.94	37.70			6467.04	NM			
MW-09	2123438.277	2728165.836	6505.40	6472.40	6462.40	36.52			6468.88	NM			
MW-10	2123190.917	2728098.897	6492.32	6470.82	6460.82	24.91			6467.41	NM			
MW-11	2123210.130	2728057.178	6492.85	6474.88	6464.88					24.66			6468.19
MW-12	2123261.508	2728240.766	6503.57	6470.63	6460.63					37.71			6465.86
MW-13	2123130.790	2728101.336	6490.03	6473.59	6463.59					22.17			6467.86
MW-14	2122977.185	2728278.195	6476.22	6468.42	6458.42					12.90			6463.32
MW-15	2123061.097	2728259.131	6478.37	6471.02	6461.02					14.58			6463.79
MW-16	2123124.981	2728244.691	6487.57	6473.58	6463.58					21.99			6465.58
MW-17	2123166.309	2728174.328	6483.30	6470.30	6460.30								
MW-18	2123052.885	2728438.037	6485.21	6470.21	6460.22								
MW-19	2123133.982	2728455.508	6492.32	6472.32	6462.35								
MW-20	2123271.916	2728418.798	6493.43	6468.43	6458.38								
MW-21	2123412.672	2728065.618	6508.15	6478.15	6468.15								
MW-22	2123349.778	2728337.726	6497.17	6469.17	6459.15								
MW-23	2123371.410	2728224.878	6505.95	6475.95	6465.95								

Depth to water measured from casing top of monitor well.

NM Not Measured

ft feet

TOC Top of Casing

(1) 0.80 specific gravity used for corrected groundwater elevations

Table 1
Florance GC J#16A
Liquid Level Gauging Data

ID.	LAT	LONG	Top of Casing Elevation	Top of Screen	Total Depth	Depth to GW	Depth to Product	Product Thickness	Corrected GW Elevation	Depth to GW	Depth to Product	Product Thickness	Corrected GW Elevation
			(ft AMSL)	(ft AMSL)	(ft AMSL)	(ft below TOC)	(ft below TOC)	(ft)	(ft AMSL)(1)	(ft below TOC)	(ft below TOC)	(ft)	(ft AMSL)(1)
						6/14/2017				10/16/2017			
SB01	2123233.002	2728200.600	6501.96	6473.64	6463.64	34.53			6467.43				
SB03	2123269.926	2728038.769	6495.01	6476.71	6466.71	24.86			6470.15				
SB04	2123316.063	2728038.043	6499.61	6476.23	6466.23	29.44	29.20	0.24	6470.36				
SB05	2123270.460	2728078.479	6498.76	6478.25	6468.25	28.24			6470.52				
SB06	2123233.425	2728080.101	6496.12	6474.79	6464.79	27.52			6468.60				
SB07	2123232.771	2728119.973	6500.29	6474.83	6464.83	32.20			6468.09				
SB08	2123232.770	2728159.536	6502.25	6472.85	6462.85	34.38			6467.87				
SB09	2123267.217	2728160.609	6504.18	6474.80	6464.80	36.29			6467.89				
SB10	2123312.675	2728215.233	6506.04	6474.64	6464.64	39.11			6466.93				
SB11	2123312.170	2728160.145	6505.61	6476.15	6466.15	36.09			6469.52				
SB12	2123316.247	2728116.008	6508.42	6477.96	6467.96	39.44	38.42	1.02	6469.80				
SB13	2123363.400	2728131.044	6504.89	6477.48	6467.48	35.21			6469.68				
SB15	2123294.383	2727968.105	6494.31	6477.86	6467.86	24.08			6470.23				
SB16	2123235.816	2728005.339	6492.07	6475.60	6465.60	22.61			6469.46				
SB17	2123164.880	2728177.241	6492.57	6475.96	6465.96	24.90			6467.67				
SB18	2123301.913	2728280.440	6506.38	6473.38	6463.38	41.24	40.65	0.59	6465.61				
SB19	2123226.216	2728307.032	6503.99	6472.33	6462.33	39.44			6464.55				
MW-3R	2123268.428	2728119.127	6502.86	6477.34	6462.34	33.88			6468.98				
MW-04	2123449.546	2728130.519	6508.05			32.67			6475.38				
MW-06	2123333.914	2728063.780	6503.13	6475.13	6465.13	32.95			6470.18				
MW-08	2123407.289	2728115.661	6504.74	6474.94	6464.94	34.78			6469.96				
MW-09	2123438.277	2728165.836	6505.40	6472.40	6462.40	35.71			6469.69				
MW-10	2123190.917	2728098.897	6492.32	6470.82	6460.82	24.45			6467.87				
MW-11	2123210.130	2728057.178	6492.85	6474.88	6464.88	24.72			6468.13				
MW-12	2123261.508	2728240.766	6503.57	6470.63	6460.63	37.57			6466.00				
MW-13	2123130.790	2728101.336	6490.03	6473.59	6463.59	22.29			6467.74				
MW-14	2122977.185	2728278.195	6476.22	6468.42	6458.42	13.24			6462.98				
MW-15	2123061.097	2728259.131	6478.37	6471.02	6461.02	14.59			6463.78				
MW-16	2123124.981	2728244.691	6487.57	6473.58	6463.58	22.69			6464.88				
MW-17	2123166.309	2728174.328	6483.30	6470.30	6460.30					25.23			6458.07
MW-18	2123052.885	2728438.037	6485.21	6470.21	6460.22					23.39			6461.83
MW-19	2123133.982	2728455.508	6492.32	6472.32	6462.35					30.06			6462.29
MW-20	2123271.916	2728418.798	6493.43	6468.43	6458.38					28.50			6464.88
MW-21	2123412.672	2728065.618	6508.15	6478.15	6468.15					36.81			6471.34
MW-22	2123349.778	2728337.726	6497.17	6469.17	6459.15					29.67			6467.48
MW-23	2123371.410	2728224.878	6505.95	6475.95	6465.95					36.80			6469.15

Depth to water measured from casing top of monitor well.

NM Not Measured

ft feet

TOC Top of Casing

(1) 0.80 specific gravity used for corrected groundwater elevations

Table 1
Florance GC J#16A
Liquid Level Gauging Data

ID.	LAT	LONG	Top of Casing Elevation	Top of Screen	Total Depth	Depth to GW	Depth to Product	Product Thickness	Corrected GW Elevation	
			(ft AMSL)	(ft AMSL)		(ft AMSL)	(ft below TOC)	(ft below TOC)	(ft)	(ft AMSL)(1)
			10//2017							
SB01	2123233.002	2728200.600	6501.96	6473.64	6463.64	34.83			6467.13	
SB03	2123269.926	2728038.769	6495.01	6476.71	6466.71	25.37	25.35	0.02	6469.65	
SB04	2123316.063	2728038.043	6499.61	6476.23	6466.23	29.49	29.48	0.01	6470.12	
SB05	2123270.460	2728078.479	6498.76	6478.25	6468.25	28.61			6470.15	
SB06	2123233.425	2728080.101	6496.12	6474.79	6464.79	28.00			6468.12	
SB07	2123232.771	2728119.973	6500.29	6474.83	6464.83	32.56			6467.73	
SB08	2123232.770	2728159.536	6502.25	6472.85	6462.85	34.70			6467.55	
SB09	2123267.217	2728160.609	6504.18	6474.80	6464.80	36.59			6467.59	
SB10	2123312.675	2728215.233	6506.04	6474.64	6464.64	38.91	38.90	0.01	6467.14	
SB11	2123312.170	2728160.145	6505.61	6476.15	6466.15	38.92			6466.69	
SB12	2123316.247	2728116.008	6508.42	6477.96	6467.96	39.52	38.50	1.02	6469.72	
SB13	2123363.400	2728131.044	6504.89	6477.48	6467.48	35.10			6469.79	
SB15	2123294.383	2727968.105	6494.31	6477.86	6467.86	24.50			6469.81	
SB16	2123235.816	2728005.339	6492.07	6475.60	6465.60	23.13			6468.94	
SB17	2123164.880	2728177.241	6492.57	6475.96	6465.96	26.50			6466.07	
SB18	2123301.913	2728280.440	6506.38	6473.38	6463.38	40.95	40.44	0.51	6465.84	
SB19	2123226.216	2728307.032	6503.99	6472.33	6462.33	39.12			6464.87	
MW-3R	2123268.428	2728119.127	6502.86	6477.34	6462.34	34.15			6468.71	
MW-04	2123449.546	2728130.519	6508.05			32.28			6475.77	
MW-06	2123333.914	2728063.780	6503.13	6475.13	6465.13	33.16			6469.97	
MW-08	2123407.289	2728115.661	6504.74	6474.94	6464.94	34.60			6470.14	
MW-09	2123438.277	2728165.836	6505.40	6472.40	6462.40	35.91			6469.49	
MW-10	2123190.917	2728098.897	6492.32	6470.82	6460.82	26.77	26.76	0.01	6465.55	
MW-11	2123210.130	2728057.178	6492.85	6474.88	6464.88	25.19			6467.66	
MW-12	2123261.508	2728240.766	6503.57	6470.63	6460.63	37.45			6466.12	
MW-13	2123130.790	2728101.336	6490.03	6473.59	6463.59	22.83			6467.20	
MW-14	2122977.185	2728278.195	6476.22	6468.42	6458.42	13.98			6462.24	
MW-15	2123061.097	2728259.131	6478.37	6471.02	6461.02	15.89			6462.48	
MW-16	2123124.981	2728244.691	6487.57	6473.58	6463.58	Dry				
MW-17	2123166.309	2728174.328	6483.30	6470.30	6460.30	21.44			6461.86	
MW-18	2123052.885	2728438.037	6485.21	6470.21	6460.22	23.44			6461.78	
MW-19	2123133.982	2728455.508	6492.32	6472.32	6462.35	30.06			6462.29	
MW-20	2123271.916	2728418.798	6493.43	6468.43	6458.38	28.50			6464.88	
MW-21	2123412.672	2728065.618	6508.15	6478.15	6468.15	36.81			6471.34	
MW-22	2123349.778	2728337.726	6497.17	6469.17	6459.15	29.67			6467.48	
MW-23	2123371.410	2728224.878	6505.95	6475.95	6465.95	36.80			6469.15	

Depth to water measured from casing top of monitor well.

NM Not Measured

ft feet

TOC Top of Casing

(1) 0.80 specific gravity used for corrected groundwater elevations

Table 2
Florance GC J#16A
Soil Analytical Results

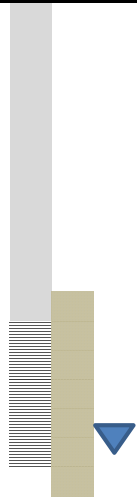
ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
Action Level								50				100			
SB-01	5/12/2017	-2-0'													
		0-2.5'	312												
		2.5-5'	41.2												
		7-7.5'	3.2												
		7.5-10'	7.8												
		10-12.5'	24.1												
		12.5-15'	68.7												
		15-17.5'	116												
		17.5-20'	127												
		20-22.5'	71.9												
		22.5-25'	162												
		25-26.5'	35.6												
		26.5-27.5'	2410												
		27.5-30'	>5000												
		30-32.5'	>5000	0.36	3.9	2	21	27.3	610	450	120	1180			
		32.5-35'	353												
		35-37.5'	259												
		37.5-40'	322												
SB-02	5/12/2017	40-42.5'	216	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	<9.4	<47	0			
		42.5'	33												
		0-2.5'	2.8												
		2.5-5'	1.6												
		7-7.5'	4.6												
		7.5-10'	6.0												
		10-12.5'	9.7												
		12.5-15'	68.9												
		15-17.5'	84.1												
		17.5-20'	82.3												
		20-22.5'	448	<0.023	<0.047	<0.047	<0.094	0.0	<4.7	<9.5	<47	0			
		22.5-25'	73.1												
		25'	241												
		25-27.5'	138												
		27.5-30'	19.7												

Table 2
Florance GC J#16A
Soil Analytical Results



ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-03	5/13/2017	-2-0'													
		0-2.5'	0.0												
		2.5-5'	0.0												
		7-7.5'	0.0												
		7.5-10'	0.4												
		10-12.5'	0.3												
		12.5-15'	0.0												
		15'	0.4												
		15-17.5'	1.3												
		17.5-19'	4.4												
		19-20'	3.3												
		20-22.5'	1904	<0.12	6.6	3.2	35	44.8	1400	430	85	1915			
		22.5-24'	21												
		24-25'	10.2												
SB-04	5/13/2017	25-27.5'	2.7	<0.023	<0.047	<0.047	<0.093	0.0	<4.7	<9.3	<47	0			0.24'
		-2-0'													
		0-2.5'	0												
		2.5-5'	10.7												
		7-7.5'	7.8												
		7.5-10'	10.4												
		10-12.5'	8.8												
		12.5-15'	4.9												
		15-17.5'	9.3												
		17.5-20'	28.3												
		20-22.5'	21.3												
		22.5-25'	23.2												
		25-26'	427												
		26-26.5'	1821	<0.49	<0.98	6.9	43	49.9	4400	5500	810	10710			
		26.5-27.5'	28.3												
		27.5-30'	6.4												
		30-32.5'	78.2	<0.023	<0.047	<0.047	<0.094	0.0	<4.7	12	<50	12			

Table 2
Florance GC J#16A
Soil Analytical Results

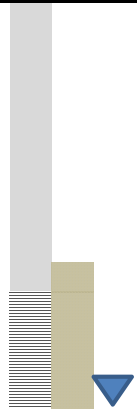
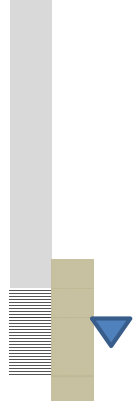
ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-05	5/14/2017	-2-0'													
		0-2.5'	119												
		2.5-5'	327												
		5-7.5'	1863	<0.24	6.9	<0.47	48	54.9	2000	320	84	2404			
		7.5-10'	1342												
		10-12.5'	1484												
		12.5-15'	1820												
		15-17.5'	1944	<0.024	<0.048	<0.048	0.11	0.1	20	28	<46	48			
		17.5-20'	1853												
		20-22.5'	1786												
		22.5-25'	1253												
		25'	956												
		25-26'	927												
		26-27.5'	116												
SB-06	5/14/2017	27.5-30'	17.2	0.032	<0.047	<0.047	<0.094	0.0	<4.7	<9.5	<47	0			
		-2-0'													
		0-2.5'	0.1												
		2.5-5'	4												
		5-7.5'	114												
		7.5-10'	388												
		10-12.5'	293												
		12.5-15'	443												
		15-17.5'	443												
		17.5-20'	762												
		20-22.5'	1118												
		22.5-25'	3083	<0.12	<0.23	<0.23	<0.47	0.0	43	150	<10	193			
		25-26.5'	1362												
		26.5-27.5'	113												
		27.5-30'	12.7	<0.024	<0.047	<0.047	<0.094	0.0	<4.7	<10	<50	0			

Table 2
Florance GC J#16A
Soil Analytical Results

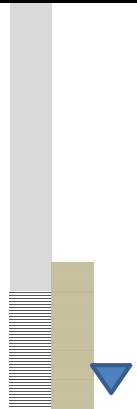

ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-07	5/14/2017	-2-0'													
		0-2.5'	35.4												
		2.5-5'	34.3												
		5-7.5'	393												
		7.5-10'	367												
		10-12.5'	383												
		12.5-15'	43.7												
		15-17.5'	83.7												
		17.5-20'	219												
		20-22.5'	626												
		22.5-25'	143												
		25-27.5'	782												
		27.5-30'	2457	3.9	40	10	120	173.9	4400	550	62	5012			
		30-32'	905												
SB-08	5/15/2017	32-35'	51.9	<0.024	<0.047	<0.047	<0.094	0.0	<4.7	<9.5	<47	0			
		-2-0'													
		0-5'													
		5-10'													
		10-12.5'													
		12.5-15'	2.9												
		15-17.5'	0												
		17.5-20'	3.1												
		20-22.5'	24.1												
		22.5-25'	157												
		25-27.5'	539												
		27.5-30'	766												
		30-32'	4426	0.19	2.2	0.72	9	12.1	320	130	<49	450			
		32-34'	308												
		34-35'	778												
		35-37.5'	0.1	<0.025	<0.050	<0.050	<0.099	0.0	<5.0	<9.7	<48	0			

Table 2
Florance GC J#16A
Soil Analytical Results

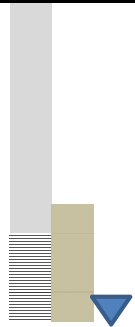


ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-09	5/15/2017	-2-0'													
		0-5'													
		5-10'													
		10-15'													
		15-20'													
		20-25'													
		25-27.5'	>5000												
		25-30'	2376	<0.12	<0.24	<0.24	3.2	3.2	210	160	<47	370			
		27.5-30'	1972												
		30-32'	964												
SB-10	5/16/2017	30-35'	4140	0.22	1.5	0.6	6.2	8.5	270	150	<50	420			
		36-39'	13.7	<0.024	<0.047	<0.047	<0.095	0.0	<4.7	<9.7	<48	0			
		-2-0'													
		0-2.5'	2.7												
		2.5-5'	4.3												
		5-7.5'	4.2												
		7.5-10'	6.0												
		10-12.5'	11.7												
		12.5-15'	12.1												
		15-17.5'	23.1												
		17.5-20'	19.7												
		20-22.5'	25.7												
		22.5-25'	43.7												
		25-27.5'	46.5												
SB-11	5/17/2017	27.5-30'	32.5												
		30-32.5'	64.1												
		32.5-35'	1119	<0.12	<0.23	<0.23	1.6	1.6	80	84	<49	164			
		35-37.5'	1420	<0.12	0.31	<0.23	1.3	1.6	78	86	<50	164			
		38-40'	30.2	<0.023	<0.047	<0.047	<0.093	0.0	<4.7	<9.9	<50	0			
		-2-0'													
		0-5'													
		5-10'													
		10-15'													
		15-20'													
		20-25'	2169												
		25-28'	3484	<0.047	0.40	0.29	2.8	3.5	100	41	<46	141			
		28-31.5'	3073	<0.12	1.5	0.66	6.8	9.0	200	53	73	326			
		31.5'	1431												
		32'	139												
		32.5-35'	21.9												
		35-37'	25.8	<0.025	<0.05	<0.05	<0.05	0.0	<5.0	<9.4	<47	0			

Table 2
Florance GC J#16A
Soil Analytical Results



ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-12	5/17/2017	-2-0'													
		0-5'													
		5-10'													
		10-15'													
		15-17.5'	1371												
		17.5-20'	1123	0.13	3.7	1.7	18	23.5	350	290	60	700			
		20-22.5'	1407	<0.024	0.065	0.056	0.44	0.6	18.0	52.0	<48	70			
		22.5-25'	157	<0.023	<0.047	<0.047	<0.094	0.0	<4.7	<9.6	<48	0			
		25'	973												
		25-27.5'	1523	<0.49	4.2	3.1	26	33.3	1100	610	130	1840			
		27.5'	973												
		27.5-30'	1518	<0.12	0.55	1.2	7.7	9.5	410	720	150	1280			
		30-32'	503	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	13	<50	13			
		32-35'	1736	<0.024	<0.048	0.067	0.26	0.3	26	92	<47	118			
		35-36'	789												
SB-13	5/17/2017	36-38'	2.0												
		38-40'	6.4	<0.025	<0.049	<0.049	<0.098	0.0	<4.9	<9.8	<49	0			
		0-5'													
		5-7.5'	13.8												
		7.5-10'	1466	<0.10	<0.21	<0.21	<0.42	0.0	<21	<10	<50	0			
		10-12.5'	131												
		12.5-15'	51.6												
		15-17.5'	78.9												
		17.5'	19.6												
		17.5-20'	24												
		20-22.5'													
		22.5-25'	12.6												
		25-27.5'	0.0	<0.024	<0.047	<0.047	<0.094	0.0	<4.7	<9.1	<46	0			
	5/19/2017	27.5-30'	25.6												
		31-32.5'	85.6	<0.024	<0.047	<0.047	<0.094	0.0	<4.7	<9.7	<48	0			
		32.5-34	26.2												
		34-36'	10.1												
		36-37.5'	5.7	<0.024	<0.047	<0.047	<0.094	0.0	<4.8	<9.8	<49	0			

Table 2
Florance GC J#16A
Soil Analytical Results

ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-14	5/18/2017	0-5'													
		5-7.5'	419	<0.049	<0.097	<0.097	<0.19	0.0	28	280	54	362			
		7.5-10'	33.2												
		10-12.5'	8.9												
		12.5-15'	18.1												
		15-17.5'	30.8												
		17.5-20'	23.9												
		20-22.5'	17.0												
		22.5-25'	18.6												
		25-27.5'	16.2												
		27.5-30'	28												
		30-32.5'	12.1												
		32.5-33.5'	14												
		33.5-35'	11.5												
		35'	38.9												
		36'	23.8												
		36.5'	8.1												
37'	3.2														
	37.5-40'	4	<0.023	<0.047	<0.047	<0.094	0.0	<4.7	<10	<50	0				
SB-15	5/20/2017	-2-0'													
		0-2.5'	3												
		2.5-5'	3.7												
		5-7.5'	2												
		7.5-10'	1.4												
		10-12.5'	0.1												
		12.5-15'	4.2												
		15-17.5'	3.2												
		17.5-20'	2.8												
		20-22.5'	1.7												
		22.5-25'	0.3	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	<9.7	<48	0			

Table 2
Florance GC J#16A
Soil Analytical Results

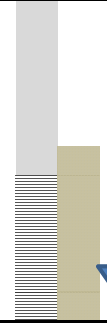

ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-16	5/18/2017	-2-0'													
		0-2.5'	4.2												
		2.5-5'	3.7												
		5-7.5'	3.3												
		7.5-10'	12.1												
		10-12.5'	9.7												
		12.5-15'													
		15-17.5'	3.1												
		17.5-20'	2.7												
		20-22.5'	15.3												
		22.5-25'	1.3	<0.023	<0.046	<0.046	<0.092	0.0	<4.6	<9.6	<48	0			
SB-17	5/19/2017	-2-0'													
		0-2.5'	0.2												
		2.5-5'	0.0												
		5-7.5'	0.0												
		7.5-10'	3.7												
		10-12.5'	2.1												
		12.5-15'	0.0												
		15-17.5'	0.0												
		17.5-20'	0.5												
		20-22.5'	0.1												
		22.5-25'	0.0	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	<9.8	<49	0			

Table 2
Florance GC J#16A
Soil Analytical Results



ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
SB-18	5/19/2017	-2-0'													
		0-2.5'	2.8												
		2.5-5'	4.7												
		5-7.5'	0.5												
		7.5-10'	1.3												
		10-12.5'	0.4												
		12.5-15'	23.0												
		15-17.5'	42.1												
		17.5-20'	153	<0.017	<0.034	<0.034	<0.069	0.0	<3.4	<9.8	<49	0			
		20-22.5'	86.9												
		22.5-25'	106												
		25-27.5'	162												
		27.5-30'	303	<0.017	<0.034	<0.034	<0.069	0.0	<3.4	<10	<50	0			
		30-32.5'	107												
		32.5-35'	1799	<0.017	<0.034	<0.034	<0.067	0.0	<3.4	10	<48	10			
		35-37.5'	838												
		37.5-39'	302												
		39-40'	46.1												
		40-42.5'	33.2	<0.016	<0.032	<0.032	<0.063	0.0	<3.2	<9.9	<49	0			
SB-19	5/20/2017	-2-0'													
		0-2.5'	0												
		2.5-5'	0												
		5-7.5'	3												
		7.5-10'	0.7												
		10-12.5'	1.2												
		12.5-15'	0.3												
		15-17.5'	6.2												
		17.5-20'	7.3												
		20-22.5'	18.5												
		22.5-25'	24.7												
		25-27.5'	25.2												
		27.5-30'	42.4												
		30-32.5'	254												
		32.5-35'	1429	<0.067	<0.13	<0.13	0.39	0.39	41	49	<49	90			
		35-37.5'	540												
		38-40'	122	0.017	<0.033	<0.033	<0.065	0.02	<3.3	<9.5	<47	0			

Table 2
Florance GC J#16A
Soil Analytical Results

ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction				
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)		Well	Sand	06/14/17 DTW	
SB-20	5/22/2017	0-2.5'	12.4														
		0-5'		<0.024	<0.049	<0.049	<0.097	0.00	<4.9	<9.9	<49	0					
		2.5-5'	7.2														
		5-7.5'	8.1														
		7.5-10'	7.9														
		10-12.5'	10.8														
		12.5-15'	9.4														
		15-17.5'	7.3														
		17.5-20'	11.1														
		20-22.5'	18														
		22.5-25'	12.5														
		25-27.5'	14.4														
		27.5-30'	6														
		30-32.5'	7.1														
		32.5-35'	3.7														
35-37.5'	12.3	<0.024	<0.049	<0.049	<0.097	0.00	<4.7	<9.7	<49	0							
SB-21	5/22/2017	0-2.5'	6.4														
		0-5'		<0.025	<0.049	<0.049	<0.098	0.00	<4.9	<9.5	<48	0					
		2.5-5'	5.9														
		5-7.5'	5														
		7.5-10'	1.3														
		10-12.5'	4.9														
		12.5-15'	7.6														
		15-20'	1.3	<0.024	<0.047	<0.047	<0.094	0.00	<4.7	<9.9	<50	0					
MW-3R	5/15/2017	-2-0'															
		0-5'	243														
		5-10'	281														
		10-15'	303														
		15-17.5'	226														
		17.5-20'	88.7														
		20-25'	523														
		25-27.5'	>5000														
		25-30'	>5000	<0.12	1.1	0.63	7.7	9.43	360	160	100	620					
		31-34.5'	>5000	1.4	14	4.2	46	65.6	2000	780	97	2877					
		33-35'	3130														
		35-37.5'	143	<0.023	<0.046	<0.046	<0.093	0.0	<4.6	<10	<50	0					

Table 2
Florance GC J#16A
Soil Analytical Results

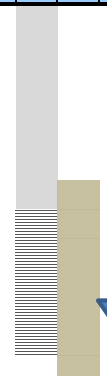

ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
MW-11	5/13/2017	-2-0'													
		0-2.5'	0												
		2.5-5'	1.3												
		5-7.5'	0.1												
		7.5-10'	0.9												
		10-12.5'	1.1												
		12.5-15'	18.4												
		15-17.5'	21.2	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	<10	<50	0			
		17.5-20'	12.9												
		20-22.5'	8.4												
		22.5-23'	1.7												
MW-12	5/16/2017	23-25'	0.8												
		25-27.5'	0.3												
		-2-0'													
		0-2.5'	0.2												
		2.5-5'	0.1												
		5-7.5'	27.3												
		7.5-10'	13.5												
		10-12.5'	20.1												
		12.5-15'	29												
		15-17.5'	54.6												
		17.5-20'	58												
		20-22.5'	59.7												
		22.5-25'	96.8												
		25-27.5'	88.5												
		27.5-30'	875	<0.12	<0.24	<0.24	<0.47	0.0	<24	39	<46	39			
		30-32.5'	1009	<0.12	0.80	<0.24	9.4	10.2	330	420	70	820			
		32.5'	797												
		32.5-34.5'	724												
		34.5-35'	662												
		35-37.5'	336												
		38-40'	46.1	<0.024	<0.047	<0.047	<0.094	0.0	<4.7	<9.2	<46	0			

Table 2
Florance GC J#16A
Soil Analytical Results



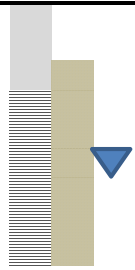
ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
MW-13	5/20/2017	-2-0'													
		0-2.5'	1.6												
		2.5-5'	0.3												
		5-7.5'	2.7												
		7.5-10'	5.1												
		10-12.5'	5.8												
		12.5-15'	8.7												
		15-17.5'	22.1												
		17.5-19'	494	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	14	<49	14			
		19-20'	60.1												
		20-22.5'	38.2												
		22.5-25'	19.6	0.039	<0.048	<0.048	<0.096	0.0	<4.8	<9.8	<49	0			
MW-14	5/20/2017	-2-0'													
		0-2.5'	4.3												
		2.5-5'	2.1												
		5-7.5'	0.7												
		7.5-10'	2												
		10-12.5'	1.3												
		12.5-15'	2.7	<0.023	<0.047	<0.047	<0.094	0.0	<4.7	<9.7	<48	0			
		15-17.5'	0.2												
		17.5-20'	0.1												
MW-15	5/20/2017	0-2.5'	1.2												
		2.5-5'	0.9												
		5-7.5'	2.1												
		7.5-10'	30.1												
		10-12.5'	91.5												
		12.5-13.5'	1079	0.13	2.7	1.7	16	20.5	410	630	110	1150			
		13.5-15'	536												
		15-16.5'	702												
		16.5-17.5'	41.8												
		17.5-20'	27.2	<0.024	<0.047	<0.047	<0.094	0.0	<4.7	<9.9	<49	0			

Table 2
Florance GC J#16A
Soil Analytical Results

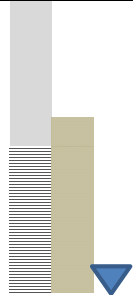
ANALYTICAL PARAMETERS				VOLATILES					TPH				Well Construction		
Sample ID	Sampling Date	Depth	PID (ppmV)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	TPH Total (mg/kg)	Well	Sand	06/14/17 DTW
MW-16	5/20/2017	0-2.5'	0.6												
		2.5-5'	0.9												
		5-7.5'	1.4												
		7.5-10'	4.3												
		10-12.5'	0.8												
		12.5-15'	1.1												
		15-17.5'	10.4												
		17.5-20'	7.6												
		20-21.5'	6.9												
		21.5-22.5'	4												
		22.5-26'	3.2	<0.024	<0.048	<0.048	<0.096	0.0	<4.8	<9.8	<49	0			

Table 3
GROUNDWATER DATA
FLORANCE GAS COM J 16A
WILLIAMS FOUR CORNERS, LLC

ANALYTICAL PARAMETERS			VOLATILES				TPH			Inorganic Parameters						FIELD PARAMETERS				
Sample ID	Media	Sampling Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	GRO (mg/L)	DRO (mg/L)	ORO (mg/L)	Sulfate (mg/L)	Nitrate+Nitrite as N (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Alkalinity (mg/L)	Dissolved Manganese (mg/L)	Ferrous Iron (mg/L)	Temp (°C)	Dissolved Oxygen (mg/L)	pH (su)	ORP (mV)
MW-1	Groundwater	5/28/2015	<1.0	<1.0	<1.0	<2.0											17.8		7.8	NT
	Groundwater	12/3/2015	<1.0	<1.0	<1.0	<3.0	<0.20	<0.10	<0.10								13.4		7.6	69
	Abandoned	6/14/2017																		
MW-2	Groundwater	5/28/2015	94	250	14	270											18.3		7.1	NT
	Groundwater	12/3/2015	300	1,800	62	1,400	16	3.0	<0.10								13.1		7.2	-112
	Abandoned	6/14/2017																		
MW-3	Groundwater	12/3/2015	31,000	28,000	1,000	11,000	140	89	38								13.5		7.3	-93
	Abandoned	6/14/2017																		
MW-3R	Groundwater	6/16/2017	15,000	14,000	530	5,500	99	10	<5.0	3.6	<1.0	468	<2.0	468	2.5	2.5	13.5	1.3	5.1	67
	Groundwater	10/21/2017	11,000	11,000	460	5,000	84	5.8	<5.0	<2.5	<1.0	517	<2.0	517	2.9	2.5	13.0	0.3	6.9	-62
MW-4	Groundwater	5/28/2015	<1.0	<1.0	<1.0	<2.0											17.1		7.6	NT
	Groundwater	12/3/2015	<1.0	<1.0	<1.0	<3.0	<0.20	0.81	<0.1								14.2		7.2	45
	Groundwater	6/15/2017	6.6	10	<1.0	8.7	0.11	<1.0	<5.0	290	<1.0	523	<2.0	523	0.51	0.0	16.9	2.9	5.8	103
	Groundwater	10/23/2017	1.8	2.3	<1.0	<1.5	<0.05	<1.0	<5.0	430	<0.1	494	<2.0	494	0.53	0.0	15.0	1.4	6.2	43
MW-5	Groundwater	5/28/2015	330	74	170	1,900											18.0		7.7	NT
	Groundwater	12/3/2015	320	150	220	3,300	18	3.7	<0.10								13.7		7.2	-94
	Abandoned	6/14/2017																		
MW-6	Groundwater	1/17/2017	8.4	1.6	23	260														
	Groundwater	6/15/2017	9.5	17	2.3	18	0.27	<1.0	<5.0	15	<1.0	306	<2.0	306	1.9	0.0	15.8	0.9	5.4	43
	Groundwater	10/23/2017	1.9	2.0	<1.0	<1.5	0.059	<1.0	<5.0	15	<0.1	317	<2.0	317	0.92	0.5	15.6	0.9	6.3	36
MW-7	Groundwater	1/17/2017	ND	ND	ND	2.2														
	Abandoned	6/14/2017																		
MW-8	Groundwater	1/17/2017	12.0	26	10	43														
	Groundwater	6/15/2017	5.1	4.3	2.6	6.4	0.30	<1.0	<5.0	14	<1.0	383	<2.0	383	0.73	0.0	17.7	2.9	5.6	91
	Groundwater	10/23/2017	2.6	1.1	1.1	<1.5	0.19	<1.0	<5.0	13	<0.1	473	<2.0	473	2.0	NS	15.6	0.3	7.1	-36
MW-9	Groundwater	2/16/2017	ND	ND	ND	ND														
	Groundwater	6/14/2017	28	46	4.3	42	0.47	<1.0	<5.0	370	<1.0	358	<2.0	358	1.5	0.0	15.6	2.7	6.7	77
	Groundwater	10/23/2017	1.4	1.7	<1.0	<1.5	<0.05	<1.0	<5.0	510	<0.1	446	<2.0	446	0.88	0.0	17.8	0.5	7.1	30
MW-10	Groundwater	1/17/2017	10,000	12,000	550	5,500														
	Groundwater	6/14/2017	13,000	8,800	510	2,900	66	8.1	<5.0	<5.0	<1.0	535	<2.0	535	3.8	3.25	14.1	1.1	5.5	29
	Groundwater	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	Groundwater	6/13/2017	36	7.6	2.7	11	0.67	<1.0	<5.0	<5.0	<1.0	550	<2.0	550	5.9	2.0	13.9	2.4	4.9	94
	Groundwater	10/20/2017	28	6.8	2.4	9.5	0.94	<1.0	<5.0	3.4	<1.0	545	<2.0	545	4.6	2.0	17.9	1.1	6.0	36
MW-12	Groundwater	6/14/2017	14,000	11,000	460	5,400	75	4.6	<5.0	<5.0	<1.0	622	<2.0	622	6.3	3.5	15.8	1.4	5.5	10
	Groundwater	10/20/2017	11,000	9,900	310	4,400	59	5.9	<5.0	<2.5	<1.0	623	<2.0	623	4.3	3.5	15.2	0.3	7.0	-96
MW-13	Groundwater	6/13/2017	76	8.0	33	27	1.6	<1.0	<5.0	11	<1.0	408	<2.0	408	3.3	1.25	15.3	2.2	4.8	63
	Groundwater	10/20/2017	1,300	1,700.0	150	1200	9.5	2.8	<5.0	<2.5	<1.0	444	<2.0	444	5.9	4.0	18.6	2.0	6.2	15
MW-14	Groundwater	6/14/2017	11	8.6	<1.0	2.9	0.088	<1.0	<5.0	12	<1.0	173	<2.0	173	0.57	0.0	13.6	11.5	5.3	184
	Groundwater	10/19/2017	12	<1.0	<1.0	<1.5	0.13	1.8	<5.0	19	<0.5	377	<2.0	377	2.3	0.25	18.2	1.9	7.6	44
MW-15	Groundwater	6/14/2017	11,000	11,000	840	5,500	100	2.9	<5.0	<5.0	<1.0	666	<2.0	666	6.1	4.25	13.0	1.0	5.5	-30
	Groundwater	10/19/2017	12,000	15,000	810	8,900	100	5.2	<5.0	<2.5	<0.5	635	<2.0	635	5.6	4.50	17.5	1.1	7.1	-44
MW-16	Groundwater	6/14/2017	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	Groundwater	10/23/2017	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-17	Groundwater	10/19/2017	<1.0	1.4	<1.0	2.2	<0.05	3.1	<5.0	230	<0.5	198	<2.0	198	0.082	0.25	17.2	6.3	8.2	50
MW-18	Groundwater	10/19/2017	1.1	1.5	<1.0	1.7	0.11	2.8	<5.0	46	<0.5	246	<2.0	246	0.31	0.25	14.8	11.1	7.5	54
MW-19	Groundwater	10/18/2017	390	<1.0	<1.0	<1.5	1.1	<1.0	<5.0	16	<0.5	251	<2.0	251	0.073	0.25	15.4	9.7	7.6	50
MW-20	Groundwater	10/18/2017	<1.0	<1.0	<1.0	<1.5	<0.05	<1.0	<5.0	80	<0.5	151	<2.0	151	0.094	0.25	14.4	7.7	7.7	54
MW-21	Groundwater	10/18/2017	930	340	180	2,000	7.8	2.5	<5.0	19	<1.0	479	<2.0	479	2.4	0.25	17.7	4.1	7.3	43
MW-22	Groundwater	10/18/2017	6.1	5.5	<1.0	6.4	0.14	<1.0	<5.0	73	<0.5	417	<2.0	417	0.26	0.0	14.6	3.3	7.5	47

Table 3
GROUNDWATER DATA
FLORANCE GAS COM J 16A
WILLIAMS FOUR CORNERS, LLC

ANALYTICAL PARAMETERS			VOLATILES				TPH			Inorganic Parameters						FIELD PARAMETERS				
Sample ID	Media	Sampling Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	GRO (mg/L)	DRO (mg/L)	ORO (mg/L)	Sulfate (mg/L)	Nitrate+Nitrite as N (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Alkalinity (mg/L)	Dissolved Manganese (mg/L)	Ferrous Iron (mg/L)	Temp (°C)	Dissolved Oxygen (mg/L)	pH (su)	ORP (mV)
MW-23	Groundwater	10/18/2017	4.6	<1.0	<1.0	1.7	<0.25	1.6	<5.0	25	<1.0	593	<2.0	593	0.78	0.0	14.7	2.0	7.1	44
SB-01	Groundwater	6/14/2017	12,000	1,200	270	2,400	37	5.1	<5.0	<5.0	<1.0	579	<2.0	579	3.2	2.25	13.7	0.7	5.3	6
	Groundwater	10/20/2017	15,000	2,600	470	4,600	56	5.1	<5.0	<2.5	<1.0	592	<2.0	592	3.4	2.75	15.2	0.3	7.0	-105
SB-03	Groundwater	6/15/2017	3,200	5,000	390	3,800	43	1.1	<5.0	<2.5	<1.0	498	<2.0	498	3.3	3.25	15.5	2.4	5.3	38
	Groundwater	10/21/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-04	Groundwater	6/14/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Groundwater	10/15/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-05	Groundwater	6/15/2017	16,000	16,000	310	3,600	100	21	<5.0	<2.5	<1.0	447	<2.0	447	3.4	3.75	18.9	7.2	6.3	-21
	Groundwater	10/21/2017	15,000	20,000	350	4,100	72	29	<5.0	NS	NS	NS	NS	NS	NS		15.3	1.5	5.9	-12
SB-06	Groundwater	6/16/2017	210	230	11	110	3.6	2.5	<5.0	<2.5	<1.0	634	<2.0	634	15	0.0	17.1	3.3	5.9	28
	Groundwater	10/20/2017	810	110	27	150	5.6	2.9	<5.0	<2.5	<1.0	664	<2.0	664	11	3.0	17.2	2.4	6.0	7.8
SB-07	Groundwater	6/16/2017	14,000	15,000	670	7,600	110	12	<5.0	<2.5	<1.0	563	<2.0	563	4.9	2.5	14.1	0.8	5.7	14
	Groundwater	10/20/2017	11,000	12,000	<500	5,000	60	10	<5.0	<2.5	<1.0	581	<2.0	581	2.0	3.0	14.4	0.1	7.0	-99
SB-08	Groundwater	6/16/2017	15,000	15,000	690	7,000	110	7.7	<5.0	6.1	<1.0	478	<2.0	478	1.7	4.75	13.4	1.1	5.1	50
	Groundwater	10/21/2017	9,500	6,900	370	4,500	64	6.3	<5.0	5.8	<1.0	461	<2.0	461	1.4	2.0	14.0	0.2	6.8	-68
SB-09	Groundwater	6/16/2017	11,000	9,700	430	3,900	78	5.2	<5.0	3.1	<1.0	592	<2.0	592	1.7	0.5	13.2	2.7	5.5	33
	Groundwater	10/21/2017	11,000	12,000	370	5,100	52	8.0	<5.0	<2.5	<1.0	511	<2.0	511	0.97	0.25	13.4	1.0	6.1	-0.3
SB-10	Groundwater	6/16/2017	11,000	9,000	590	4,300	82	2.1	<5.0	27	<1.0	511	<2.0	511	2.7	0.0	15.3	2.5	5.5	75
	Groundwater	10/20/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-11	Groundwater	6/16/2017	13,000	20,000	750	6,500	120	3.9	<5.0	32	<1.0	482	<2.0	482	4.6	0.0	15.5	2.5	5.2	63
	Groundwater	10/21/2017	5,200	6,100	<500	3,400	38	3.9	<5.0	5.1	<1.0	514	<2.0	514	2.8	2.0	14.1	0.2	7.1	-63
SB-12	Groundwater	6/14/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Groundwater	10/18/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-13	Groundwater	6/16/2017	150	86	9.3	52	3.9	<1.0	<5.0	12	<1.0	480	<2.0	480	14	0.0	15.3	2.2	5.5	76
	Groundwater	10/23/2017	220	<5.0	6.4	12	3.8	<1.0	<5.0	51	<0.5	245	<2.0	245	4.7	1.5				
SB-15	Groundwater	6/13/2017	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0	34	<1.0	246	<2.0	246	1.7	0.75	16.2	5.7	6.1	133
	Groundwater	10/20/2017	3.3	3.5	<1.0	2.6	<0.050	<1.0	<5.0	34	1.9	243	<2.0	243	0.1		19.0	8.2	6.5	46
SB-16	Groundwater	6/13/2017	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0	8.6	<1.0	401	<2.0	401	1.6	0.25	15.1	3.4	5.6	174
	Groundwater	10/20/2017	20	18	1.4	17	0.21	<1.0	<5.0								17.8	2.2	7.3	-11
SB-17	Groundwater	6/13/2017	11	3.5	<1.0	<1.5	0.16	<1.0	<5.0	11	<1.0	510	<2.0	510	3.6	0.25	17.7	2.4	5.8	115
	Groundwater	10/23/2017	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
SB-18	Groundwater	6/14/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Groundwater	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-19	Groundwater	6/14/2017	10,000	7,400	330	3,300	50	5.0	<5.0	9.5	<1.0	614	<2.0	614	3.0	2.75	18.3	1.7	5.5	53
	Groundwater	10/20/2017	10,000	6,100	400	3,500	46	4.0	<5.0	<2.5	<1.0	544	<2.0	544	3.3	2.5	15.4	2.1	5.9	-17
Main Seep	Seep	12/3/2015	<1.0	<1.0	<1.0	<3.0	<0.20	<0.10	<0.10											
Secondary Seep	Seep	12/3/2015	230	950	65	1,100	8.8	2.5	0.19											
Concrete Trap	Seep	12/3/2015	14,000	22,000	1,800	19,000	160	24	4.8											

NT - Not tested for this constituent.
Note: May 2015 data collected by BP; December 2015 data collected by Williams.
Abandoned - wells abandoned during excavation actions
NS - Not sampled due to the presence of LNAPL

Appendix A



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB01	Project: Florance GC J #16A
Date: 5-9-17 5-12-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Drilling Method: Sonic Rig	Sampling Method: Continuous
Seal: Bentonite Chips 42.5-37, 23-21	Grout: Bentonite Slurry 21-0'
Casing Type: Schedule 40 PVC	Diameter: 2" Length: 6.25'
Screen Type: Schedule 40 PVC Slot: 0.010"	Diameter: 2" Length: 10'
	Total Depth: 42.5' Depth to Water: ~30'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stick up Well Completion
					0					
	Moist	31.2	No		1				Brown, med. fin sand w/ silt. likely treated material spread on top. Moist. No stain/color, smells like peroxide.	
					2					
	Moist				3				SAA.	
	Dry	41.2	No		4				Lt. Brown, med. fin sand stone. Native material. No stain/color.	
					5					
	Dry	3.2	No		6				Lt. Brown + Lt gray med fin sand. No s/o	
					7					
	Dry	7.8	No		8				SAA.	
					9				Lt. Brown/Gray med fin s. str. w/ silt. No s/o	
					10					
	Dry	24.1	No		11				SAA. No s/o	
					12					
	Dry	68.7	No		13				SAA, Lt Brown, med fin s. stone w/ silt. No s/o	
					14					
					15					



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Boring/Well #	SB01
Project:	Florance GC J #16A
Project #	034016011.001
Date	5-12-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	116	No		15				Lt Brown + Lt gray med-coarse sandstone. No stain, slight sweet HC odor	
					16					
					17					
	Dry	127	No		18				Brown coarse s. stn. 'Hard.	
					19				No s/o	
					20					
	Dry	71.9	No		21				SAA. No s/o	
					22					
					23					
	Dry	162.	No		24				Brown coarse s. stn. No stain. Slight sweet HC odor	
					25				Bag OVM 969	
	Dry	35.6	No		26				Brown/Lt gray med-coarse sand stn. slight sweet HC odor. Bag OVM 141	
					27				Lense gray shale stone.	
	Dry	2410	No		28				Lt gray coarse sand stn. No stain. Sweet HC odor. Bag OVM 25,000.	
					29				SAA to Brown coarse s. stn.	
	Dry	>5,000	No		30				No stain. Sweet HC odor. Bag OVM >5,000ppm. slight moist @ 30'	
moist					31				- Dark gray coarse sand stn. Arroy stain/odor. Bag OVM 25,000.	
	Dry	>5,000	YES	SB01 @ 30-32.5'	32				- Moist, Lt. Gray coarse sand stn.	
moist					33					
	Dry	353	YES		34				Dark grayish blue sandy siltstone. Mod stain/color.	
					35				Native coloring also Dark gray blue gray fn. sandy silt stone.	
					36				No s/o.	
Dry		259	No		37				- Dark red sandy silt stn. No s/o	

37.5

Bentonite



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Boring/Well #

SB01

Project:

Florance GCJ #16A

Project #

034016011.001

Date

5-12-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37.5					
	Dry	322	No		38				Lt. gray fn. sandy siltstn.	Hydrated Bentonite chips
					39				No s/o	
					40					
					41				SAA. gray fn. sandy siltstone	
	Per	216	No	SB01	42				No s/o	Hydrated Bentonite chips
				@	43				14 Brown med fn sand w/ silt	
	Dry	33	No	40-42.5	44				No s/o	
					45				Sample PID 73.6 ppm	
					46					
					47				Well completion	
					48				Hydrated Bentonite chips	
					49				42.5' - 37	
					50				sand 37 - 23	
					51				Bentonite 23 - 21	
					52				Grout 21 - 0'	
					53				Screen 35 - 25	
					54				casing 25 -	
					55				sand - 5.25 bags	
					56				bentonite - 1.5	
					57				cement - 5	
					58				gel - 1/3	
					59					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB02	Project:	Florance GC J #16A
Date:	5-12-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
Casing Type:	Schedule 40 PVC	Grout:	Bentonite Slurry 30'-0'
Screen Type:	Schedule 40 PVC	Diameter:	2"
Slot:	0.010"	Length:	—
Diameter:	2"	Hole Diameter:	6.25"
Length:	—	Depth to Liquid:	
Total Depth:	30'	Depth to Water:	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	2.8	No		0				Brown med-coarse s. stn.	
					1				No stain/odor	
					2					
	Dry	1.6	No		3				SAA. No s/o	No Well set.
					4					
					5					
	Dry	4.6	No		6				SAA No s/o	All PIDs
					7					<1,000 ppm
	Dry	6.0	No		8				Lt. Brown - med. sand stn.	Bentonite slurry cement grout from 30'-0'
					9				No stain/odor	
					10					
	Dry	9.7	No		11				SAA	
					12					
					13					
	Slight Moist	68.9	No		14				Lt. Brown / tan med sand stn.	
					15				No stain. very slight musty odor.	



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Boring/Well #

SB02

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-12-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt Brown/tan med sandstone	
	Dry	84.1	No		16				No stain, slight musty odor.	
					17				Bag OUM - 188ppm	
					18				SAA	
	Dry				19				- Brown med-coarse s.stn.	
		82.3	No		20				No stain, silt. must.	
	Dry				21				SAA. coarsening downward	
	Dry	448	No	SB02 @ 20-22.5'	22				- Lt. Brownish gray coarse s.stn.	
			slight		23				* slight stain, * slight musty odor	
	Dry	73.1	slight		24				SAA	
	V. Moist	241	Yes		25				- Gray coarse s.stn. mod stain	
					26				slight odor, Moist. PID: 392ppm	
					27				Dark gray sandy siltstn.	
	Dry	138	No		28				No stain, v. silt. odor.	
					29				SAA.	
					30				- Blueish gray sandy silt stn.	
	Dry	19.7	No		31				- lt gray silt stn. No s/o	
					32				All PID < 1,000 ppm, so no	
					33				well set. Back fill well	
					34				with bentonite / cement grout.	
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	S803	Project:	Florance GC J #16A		
Date:	5-13-17	Project Number:	034016011.001		
Logged By:	Daniel Burns	Drilled By:	Cascade		
Drilling Method:	Sonic Rig	Sampling Method:	Continuous		
Seal:	Bentonite Chips 13'-11"	Grout:	Bentonite Slurry 11'-0"		
Diameter:	2"	Hole Diameter:	6.25"	Depth to Liquid:	—
Length:	10'	Total Depth:	27.5'	Depth to Water:	~23'

Elevation:	6,511 ft	Detector:	PID
Gravel Pack:	10-20 Silica Sand	27.5-13'	
Casing Type:	Schedule 40 PVC		
Screen Type:	Schedule 40 PVC	Slot:	0.010"

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
					0				lt. Brown med. sand stone	
					1				No stain/odor.	
					2					
					3					
	Dry	0.0	No		4				SAA. No s/o	
					5					
					6					
	Dry	0.0	No		7				SAA No s/o	
					8					
	Dry	0.4	No		9				lt. Brown med-coarse s.stn	
					10				No s/o	
					11				SAA. No s/o	
	Dry	0.3	No		12					
					13				SAA	
					14				No s/o	
	Dry	0.0	No		15				- Brown med-coarse s.stn.	
									No s/o	



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Boring/Well #

SB03

Project:

Florange GC J #16A

Project #

034016011.001

Date

5-13-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
		0.4	No		15				Brown med. silty sandstone w/ oxidation No s/o	
	Dry	0.0	No		16				lt. Brown gray siltstone w/ sand No s/o	
	Dry	1.3	No		17				Brown coarse sand. No s/o	
					18				Brown & gray siltstone & silty sandy w/ oxidation. No s/o.	
	Dry	4.4	No		19					
		3.3	No		20				Brown fn-med silty sandstone. No s/o	
	Moist			SB03 @ 20-22.5	21				Gray med sand str. slight stain. / H/C odor	
	Moist	1.904	Yes		22				olive gray med s. str. Mod. s/o	
	Moist				23				Brown med-coarse sand. No stain aquifer.	
	wet	21.0	No		24				Blue-gray sandy siltstr. No s/o	
	Dry	10.2			25					
				SB03 @ 25-27.5'	26				SAA. Blue-gray sandy silt str.	
	Dry	2.7	No		27				lt blue gray sandy silt str. No s/o	
					28					
					29					
					30				Well set @ 25'	
					31				10' screen ~ 15'	
					32				Sand to 13'	
					33				chips to 11'	
					34				grout to 0'	
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: **SB04** Project: **Florance GC J #16A**
 Date: **5-13-17** Project Number: **034016011.001**
 Logged By: **Daniel Burns** Drilled By: **Cascade**

Elevation: **6,511 ft** Detector: **PID** Drilling Method: **Sonic Rig** Sampling Method: **Continuous**

Gravel Pack: **10-20 Silica Sand 32.5- 17.5** Seal: **Bentonite Chips 17.5-15** Grout: **Bentonite Slurry 15-0**

Casing Type: **Schedule 40 PVC** Diameter: **2"** Length: **6.25'** Hole Diameter: **6.25"** Depth to Liquid: **26'**

Screen Type: **Schedule 40 PVC** Slot: **0.010"** Diameter: **2"** Length: **10'** Total Depth: **32.5'** Depth to Water: **26'**

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Completion
					0				Brown, med. sand stone.	
	Dry	0	No		1				No stain/odor.	
					2					
					3				SAA	
	Dry	10.7	No		4				Brown med s.stn. slight musty odor, no stain	
					5					
					6				SAA	
	Dry	7.8	No		7				slightly sweeter damp musty smell, no stain	
					8					
					9				SAA	
	Dry	10.4	No		10				Brown, tan med coarse s.stn. No stain, slt. damp odor.	
					11					
	Dry	8.8	No		12				SAA. No stain, same odor	
					13					
					14				SAA. No stain, less odor	
	Dry	4.9	No		15					



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Boring/Well #

SB04

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-13-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Brown/tan med.-coarse s. stn.	
					16				No skin/odor.	
					17					
					18				Brown tan med. s. stn.	
					19				No stain slight damp odor	
					20					
					21				SAA. No stain, slight damp odor	
					22					
					23				olive to lt. gray med & med-coarse sand. stn.	
					24				Slight stain, odor reminiscent of drilling mud.	
					25				gray coarse - med s. stn.	
					26				slt stain, damp odor, musty	
					27				* Gray, med coarse sand, product observed.	
					28				+ Reddish brown sandy silt, no s/o	
					29				+ Blue gray sandy siltstn.	
					30				No s/o	
					31				Blue gray sandy siltstone	
					32				Lt. Blue gray sandy siltstone No s/o	
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB05	Project: Florance GC J #16A
Date: 5-14-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Drilling Method: Sonic Rig	Sampling Method: Continuous
Seal: 30-28 20-18 Bentonite Chips	Grout: Bentonite Slurry 18-0
Diameter: 2" Length: 25'	Hole Diameter: 6.25" Depth to Liquid: —
Diameter: 2" Length: 5'	Total Depth: 30 Depth to Water: ~25'

Elevation: 6,511 ft	Detector: PID
Gravel Pack: 10-20 Silica Sand 28-20	
Casing Type: Schedule 40 PVC	
Screen Type: Schedule 40 PVC	Slot: 0.010"

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
					0					
	Moist	119	No		1				Brown, med. sand, unconsolidated treated material. No stain, peroxide odor.	
					2					
	Moist	327	No		3				SAA. moist, peroxide odor	
					4					
					5					
	Dry	1,863	No	SB05 @ 5-7.5'	6				Brown med sand stone, cemented. No stain	
					7					
					8				slight odor (HC) @ 7-7.5	
	Dry	1,342	No		9				4 Brown/tan med s. stn. strong HC odor + musty locker room odor	
					10					
					11				SAA. same odor.	
	Dry	1,484	No		12					
					13					
	Dry	1,820	No		14				tan med. s. stn. Mod. HC gas odor.	
					15					



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Boring/Well #

SB05

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-14-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	1944	No	SB05 @ 15-17.5'	15				tan med. s. stn. Mod-strong gas HC odor. No stain.	
					16					
					17					
	Dry	1,853	No		18				SAA Strong HC odor and locker room musty odor. No stain.	
					19					
					20					
	Dry	1,786	No		21				SAA. same odor	
					22				PID: 1209 ppm	
					23				Brown med. s. stn. Similar odor. No stain, just a color change	
	Dry	1,253	No		24				SAA	
					25				tan. ft brown med s. stn. Mod odor	
	Moist	956	yes		26				Gray med. med coarse s. stn. Mod stain/odor. No sheen on bag/observable FP.	
	V.M. Wet	927	yes		27				SAA, olive gray med. coarse sand unconsolidated. Mod s/o.	
					28				Dark gray silty sand stn. Firmed. No s/o	
	Dry	116			29				Dark blue gray sandy silt stn. No s/o	
	Dry			SB05 @ 27.5'-30'	30				Dark gray silt stn with some black imm. lignite. No s/o	
		17.2			31				Bluish gray sand silt stn. No s/o	
					32				SAA. No s/o	
					33				well set @ 27, 5' screen	
					34				- 3 bags sand	
					35				- 1 bag chips	
					36				- 4 bag cement	
					37					

Hydrated Bentonite



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB06	Project:	Florance GC J #16A
Date:	5-14-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
	29-21		30-29, 21-19
Casing Type:	Schedule 40 PVC	Grout:	Bentonite Slurry
			19-0
Screen Type:	Schedule 40 PVC	Hole Diameter:	6.25"
		Depth to Liquid:	
Slot:	0.010"	Diameter:	2"
		Length:	5'
		Total Depth:	30
		Depth to Water:	~25

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	struckup Well Completion
	Moist				0				Brown, moist, med. sand.	
	0.1		NO		1				Treated material No s/o	
	Dry				2				lt. Brown tan med sandstone	
					3				No s/o	
					4				Brown/tan med. s.stn.	
	Dry	4.0	No		5				No s/o	
					6				SAA. No stain, v. slight.	
	Dry	114	No		7				musty odor.	
					8				lt. Brown, med. s.stn. No	
	Dry	388	No		9				stain, v. slt. damp musty odor	
					10					
	Dry	293	No		11				SAA. No stain	
					12				same odor	
					13					
	Dry	443	No		14				Lt Brown, tan med-med coarse	
					15				s.stn No stain. Damp	
									musty odor.	



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Boring/Well #

SB06

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-14-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	443	No		15				Lt. tan gray med s: stn.	
					16				No stain, damp musty odor	
					17					
	Dry	762	No		18				Lt. tan med gray s: stn	
					19				No stain, similar odor	
					20				tan-gray med-coarse s: stn. No stain same odor	
					21					
	Dry	1118	No		22				S4A.	
					23					
	Dry		No		24				S4A. Lt. tan gray med-coarse s: stn. No stain, damp odor	
	Silt. Moist	3083	Silt.	SB06 @ 22.5' - 25'	25				Gray med-coarse sand, med. stain, HC odor.	
					26				Dark gray med-coarse sand. HC stain/odor	
	Moist	1362	Yes		27				Dark gray med-coarse sand. HC stain/odor	
					28				Dark gray med-coarse sand. HC stain/odor	
		113			29				Dark gray med-coarse sand. HC stain/odor	
					30				Reddish brown sandy silt. No stain/odor	
	Dry	12.7	No	SB06 @ 27.5' - 30'	31				in 3x25' bags for 25-30. Blue gray silt stn. approx. here	
					32				Blue gray sandy siltstone	
					33				No s/o	
					34					
					35				Well set @ 28'	
					36				5' screen	
					37				3.5 bags sand	
									1 bag chips	
									4.5 bag cement	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SBO7	Project:	Florance GC J #16A
Date:	5-14-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Drilling Method:	Sonic Rig	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
	33-19		19-16.5
Casing Type:	Schedule 40 PVC	Hole Diameter:	6.25"
Screen Type:	Schedule 40 PVC	Total Depth:	35
	Slot: 0.010"	Depth to Liquid:	
		Depth to Water:	30

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
					0				Brown, moist med sand, unconsolidated. No stain peroxide odor	
					1					
					2					
					3					
					4				Treated material	
					5					
					6				SAA, treated material	
					7					
					8					
					9				SAA, treated material	
					10					
					11					
					12				SAA treated material	
					13					
					14					
					15				lt brown/tan med sand stone. No stain/odor	



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Boring/Well #

SB07

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-14-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	83.7	No		15				Lt. Brown tan s. stn. No stain, v. silt. damp odor	
					16					
					17					
					18				SAA. No stain, silt. damp odor	
	Dry	219	No		19					
	silt. moist		No		20				- Lt. grayish brown med. coarse s. stn. No stain, silt. damp + HC odor	
					21					
	Dry	626	No		22				Lt. Brown tan med. coarse s. stn. No stain, silt. damp odor	
					23					
	Dry	143	No		24				Lt. Brown tan coarse s. stn. No stain, damp odor	
					25					
	Dry	782	No		26				SAA. Lt Brown/tan coarse s. stn. No stain, damp slight HC odor	
					27					
	Dry		No	SB07 @ 27.5	28				SAA. Increasing HC odor	
	Moist	2457	Silt.	-30	29				- Lt. gray coarse s. stn. silt. stain, mod. HC odor	
					30					
	Wet	905	Yes		31				Dark gray med coarse sand Mod stain/odor (HC)	
					32				- Brown silty sand stn. No s/o	
	Dry	51.9	No	SB07 @ 32	33				- Blueish gray sandy silt stn. No s/o	
				-35	34				SAA. Blueish lt. gray sandy silt stn.	
	Dry		No		35				- Light Maroon silt stn. No s/o	
					36				well set @ 32, 10' screen	
					37				5.5 bags sand to 19' 1 bag chips	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB08	Project:	Florance GC J #16A
Date:	5-15-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	40-37 24-21.5 Bentonite Chips
	37-24	Grout:	Bentonite Slurry 21.5-0
Casing Type:	Schedule 40 PVC	Diameter:	2"
		Length:	
Screen Type:	Schedule 40 PVC	Hole Diameter:	6.25"
		Depth to Liquid:	
Slot:	0.010"	Diameter:	2"
		Length:	10'
		Total Depth:	40
		Depth to Water:	31-32

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0					
					1					
					2					
	Moist	1	No		3				Brown med. sand, unconsolidated. No stain, moist, peroxide odor => Treated material	
					4					
					5					
					6					
					7				SAA	
					8				Treated Material	
	Moist		No		9				No s/o	
					10					
					11				SAA Treated Material	
	Moist		No		12					
					13				Native	
					14				Lt Brown med. sand stone.	
	Dry	2.9	No		15				No stain/odor	



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Boring/Well # **SB08**
Project: Florance GC J #16A
Project # 034016011.001
Date **5-15-17**

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt. Brown med-co s.stn.	
	Dry	0.0	No		16				No stain/odor	
					17					
					18				SAA, med s.stn.	
	Dry	3.1	No		19				No stain/odor	
					20					
					21				SAA No s/o	
	Dry	24.1	No		22				- Lt. grayish Brown coarse s.stn. No stain, slight damp sweet musty odor	
					23					
	Dry	157	No		24				SAA, No stain, slight sweet musty odor	
					25					
					26				SAA. No stain, mod. sweet & HC odor w/ musty smell.	
	Dry	539	No		27					
					28					
					29				SAA	
					30				- Brown coarse s.stn. Increasing HC odor @ 29.5	
	Dry	766	No		31				SAA. Mod. HC odor	
	Dry Moist	4426	YES	SB08 @ 30-32	32				- Brownish gray coarse s.stn Mod HC odor	
					33				- Olive dark gray med s.stn gray med sand, unconsolidated strong HC stain odor	
	V. Moist Wet	308	YES		34				- Lt Brown silty fin. sand stn. Blueish gray sandy siltstn	
	Dry	778	No		35					
					36				Blue gray stn sandy siltstn to 40' No s/o	
	Dry	0.1	No	SB08 @ 35-37.5	37					

6 Bags sand
1 bag chips

Well set @ 36' 10' screen
chips to 37.

57

40



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	S809	Project:	Florance GC J #16A								
Date:	5-15-17	Project Number:	034016011.001								
Logged By:	Daniel Burns	Drilled By:	Cascade								
Drilling Method:	Sonic Rig	Sampling Method:	Continuous								
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips 39-37, 23.5-21	Grout:	Bentonite Slurry 21-0						
Casing Type:	Schedule 40 PVC	Diameter:	2"	Length:		Hole Diameter:	6.25"	Depth to Liquid:			
Screen Type:	Schedule 40 PVC	Slot:	0.010"	Diameter:	2"	Length:	10'	Total Depth:	39'	Depth to Water:	35'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
	Moist		No		0				Brown medium sand	
					1				unconsolidated fill	
					2				No stain, peroxide odor	
					3				→ Treated Material	
					4					
					5					
	Moist		No		6				SAA Trtd Material	
					7					
					8					
					9				SAA Trtd Material	
					10					
					11					
					12				SAA Trtd Material	
	Moist		No		13					
					14					
					15				SAA Trtd Material	



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Boring/Well #

SB09

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-15-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16				SAA Trtd Material	
					17					
	Moist		No		18					
					19				SAA Trtd material	
					20					
					21					
	Moist		No		22				SAA Trtd Material	
					23					
					24				SAA	
					25				Lt. brown/tan med. coarse sand stone. No stain, strong gassy HC odor	
	Dry	>5,000	No	SB09 @ 25'	26					
					27					
					28					
	Dry	2,376	No	-30	29				SAA, No stain, strong HC gas odor.	
					30					
	Dry	1,972		SB09 @ 30'	31					
		964			32					
	Moist				33				Dark gray med. coarse sand. Mod. strong stain/odor	
	Unsat	4,140	Yes	35'	34				Dark olive gray med. coarse sand w/ gravel. Mod S/O	
	wet				35				Bluish gray sandy siltstn. No S/O	
					36					
	Dry	13.7	No	SB09 @ 36-39'	37				Lt. Maroon & bluish gray inter-bedded siltstone	
					38					
					39					



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Boring/Well #

Project:

Florance GC J #16A

Project #

034016011.001

Date

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					20					
					1					
					2					
	Moist		No		3					
					4					
					5					
					6					
					7					
	Moist		No		8					
					9					
					10					
					11					
	Moist		No		12					
					13					
					14					
					15					
	Moist		No		16					
					17					
					18					
					19					
	Moist		No		20					
					21					
					22.5					

SB09

Brown med. sand.
Unconsolidated. full
No stain, peroxide odor
Treated Material

SAA. Treated Material
No stain

SAA No s/o

SAA

No s/o
Treated Material

SAA

Treated Material

to 22.5'



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Boring/Well #

SB09

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-15-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					22					
	Moist				23				Treated Material	
					24					
					25					
	Dry	>5,000	No	SB09 @ 25-27	25				lt. Brown/tan med. coarse s.s. str. No stain, strong gassy HC odor	
					26					
					27					
					28					
	Dry	2376	No	25-30	28				lt Brown/tan med-coarse s.s. str. No stain, strong gassy HC odor	
					29					
					30					
					31					
	Dry	1972	No	SB09 @ 30-32	31					
					32					
		964	No	35	33				oxidized, rust odor, less HC	
	Moist				34				Dark gray med-coarse sand. Mod-strong s/o (HC)	
	Moist wet	4,140	Yes		35				Dark olive gray med-coarse sand w/ gravel. Mod stain/odor	
					36				Blueish gray sandy silt str. No stain/odor	
	Dry		No	SB09 @ 35-39'	36					
					37					
					38					
	Dry	13.7	No		39				lt. Maroon and blue gray inter bedded silt str.	
					40					
					41					
					42					
					43					
					59					
									Well set @ 36' 10 screen sand to 24 chips.	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB 10	Project: Florance GC J #16A
Date: 5-16-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Elevation: 6,511 ft	Detector: PID
Drilling Method: Sonic Rig	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips
40' - 27.5	27.5 - 25.5
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry
Screen Type: Schedule 40 PVC	25.5 - 0'
Slot: 0.010"	Diameter: 2"
Diameter: 2"	Length: 10'
Hole Diameter: 6.25"	Depth to Liquid: -
Total Depth: 40'	Depth to Water: -

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	2.7	NO		0				Lt. Brown/tan + gray med sand, dry. NO S/O	
					1					
					2				@ 2: Reddish brown sandy sand to gray sandy silts NO S/O	
					3				Gray Sand siltstone, dry, NO S/O	
	DRY	4.3	NO		4					
					5					
	DRY	4.2	NO		6				Lt. orangeish tan silt/sand stone fr. to tan fr. w/ salt. NO S/O - DRY	
					7					
	DRY	6.0	NO		8				Lt. Brown/tan fr-med. s. str. DRY NO S/O	
					9					
	DRY	11.7	NO		10					
					11				Lt. brown tan med s. str. DRY NO S/O	
					12					
	DRY	12.1	NO		13					
					14					
					15				DRY NO S/O	



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Boring/Well #

SB 10

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-16-97

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	DRY	23.1	NO		15				DRY NO stain, very slight chlorine like pool odor	
					16					
					17					
	DRY	19.7	NO		18				NO S/O. DRY. @ 19: Lt. brown med. coarse s. str. NO S/O DRY	
					19					
					20					
	DRY	25.7	NO		21				NO S/O. DRY. @ 22: Lt. brown gray fn sandy siltstone lens. NO S/O	
					22					
					23					
	DRY	43.7	NO		24				Same silt str lens, unconsolidated. @ 23: Lt. brown med. coarse s. str DRY NO S/O	
					25					
	DRY	46.5	NO		26				Lt. Brown med-coarse s. str. NO stain slight damp odor DRY	
					27					
	DRY	32.5	NO		28				NO stain, same odor. DRY	
					29					
					30					
	DRY	64.1	NO		31				NO stain, same odor DRY	
					32					
	DRY	111.9	NO		33	SB10 @ 32.5			Lt. gray coarse sand str. Lt. S/O @ 33: Lt. Brown sandy silt. unconsol. NO S/O @ 33.5: Lt. olive gray coarse s. str. start of DRY	
					34	-35				
					35				Same S/O @ 35.5-35.75 smell it	
	DRY	142.0	NO		36	SB10 @ 35			grayish brown cemented sandy silt str. Lt. S/O DRY	
					37	-37.5				



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Boring/Well #

SB 10

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-16-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
					40					
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

DRY

30.2

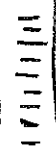
NO

SB10

@38

-40

@ 36: Dark gray coarse loose sand,
Mod S/O, moist @ 37: Lt. brown
sandy silt stn. w/ bluish sandy silt stn.
Bluish gray fn sandy silt stn.
NO S/O DRY U/Y. Maroon
silt stn @ 39.5, DRY NO S/O





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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB11 71112	Project: Florance GC J #16A				
Date: 5-17-17 5-16-17	Project Number: 034016011.001				
Logged By: Daniel Burns	Drilled By: Cascade				
Drilling Method: Sonic Rig	Sampling Method: Continuous				
Seal: Bentonite Chips 39-37 24-21.5'	Grout: Bentonite Slurry 21.5'-0				
Casing Type: Schedule 40 PVC	Diameter: 2"	Hole Diameter: 6.25"	Depth to Liquid: 		
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2"	Length: 10'	Total Depth: 39'	Depth to Water: 34

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Completion
					0					
					1					
					2					
	Moist		No		3				Brown, med. unconsolidated sand. Moist. No stain, peroxide odor. Fill material	
					4					
					5				Total Material.	
					6					
			No		7				SAA	
					8					
	Moist		No		9				Treated Material	
					10					
					11					
			No		12					
					13				SAA	
					14					
					15					



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Boring/Well #

SB11

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-17-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
			No		15				Treated Material	
			No		16				SAA	
			No		17				Treated Material	
			No		18					
			No		19					
			No		20					
			No		21					
			No		22					
			No		23					
			No		24					
			No		25				24.5' - Lt Brown med sand, silty consolidated. Mod HC gassy odor. No stain.	
			No	SB11 @ 25-28	26				Lt Brown med. sand str.	
			No		27				Mod HC gassy odor. No stain.	
			No		28					
			No	SB11 @ 28-31.5	29				Lt. Brown med-coarse s. str.	
			No		30				Mod-strong HC odor. No stain.	
			Yes		31				Grayish Lt Brown coarse sand. Silt. stain, mod odor.	
			No		32				Brown silty fn. sand str w/oxid. No s/o	
			No		33				Bluish gray sandy silt str. No stain	
			No		34				v. slight odor	
			No		35				Transition w/ Lt. Brown sandy silt	
			No		36				Grayish Lt. Brown coarse s. str. Slight stain, v. silt odor.	
			No		37				Dus K Brown coarse sand. No s/o wet	
			No	SB11 @ 35-37	36				Bluish gray sandy silt str.	
			No		37				No s/o	

Set @ 36' sand to 24 chips to 21.5
S.S bags 1 bag



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB12	Project:	Florance GC J #16A
Date:	5-17-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
Casing Type:	Schedule 40 PVC	Grout:	Bentonite Slurry
Screen Type:	Schedule 40 PVC	Diameter:	2"
Slot:	0.010"	Length:	6.25"
Diameter:	2"	Hole Diameter:	6.25"
Length:	2"	Depth to Liquid:	
Total Depth:		Depth to Water:	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
	Moist		No		0				Brown med unconsolidated sand. No stain, peroxide odor. Moist. Fill material consisting of treated material	
					1					
					2					
					3					
					4					
					5					
					6					
	Moist		No		7				SAA Ttd material	
					8					
					9					
					10					
					11					
					12				SAA	
					13					
					14					
					15					



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Boring/Well # **SB12**

Project: Florance GC J #16A

Project # 034016011.001

Date **5-17-17**

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Moist		No		15				Treated Material No stain	
					16				~ peroxide/HCl gas odor.	
					17				lt brownish gray med. s. str. silt. to	
	Dry	1371	SLT		18				Mod stain/odor.	
	Dry				19				thin 4" lense brown silt.	
	SLT	1123	YES		20				Dark gray med-coarse s. str. Mod	
	Moist				21				HCl stain/odor	
	SLT				22				Gray coarse s. str. Mod HCl s/o	
	Moist	1407	YES		23					
	Dry				24				lt gray med-coarse s. str. Mod	
	Dry	157	yes		25				st. to silt. s/o.	
					26				~ less HCl odor @ 24-25	
	SLT	973			27				olive gray med coarse s. str. Mod s/o	
	Moist	1523	YES		28				Dark bluish gray coarse sand w/ some	
	Moist	973			29				silt, siltly consolidated. Mod-strong stain/odor	
					30				olive grayish brown med coarse s. str. s/o	
	Dry	1518	No		31				lt Brown/tan med s. str.	
					32				No stain, strong gassy HCl odor	
	Dry	503	No		33				Brown fn-med sand str. w/ silt.	
					34				No stain, v. silt odor	
	Dry	1736	YES	SB12 @ 32.5	35				olive dark gray to gray med to	
				-35	36				coarse s. str. Mod stain,	
	Wet	789	YES		37				strong odor	
	Dry	2.0	No						Dark gray coarse sand, wet	
									strong stain odor	
									Brown, v. fn. silty sandstone, friable	
									No s/o	
									Bluish gray sandy silt str. - No s/o	

Dry

38-40
SB12 @ 38-40



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Boring/Well #

SB12

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-17-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
					40					
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

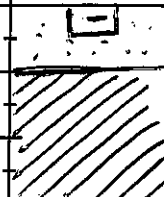
Dry

6.4

No

SB12
@
38-40

Bluish gray sandy siltstn. No stain/color





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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB13		Project:	Florance GC J #16A	
Date:	5-17-17		Project Number:	034016011.001	
Logged By:	Daniel Burns		Drilled By:	Cascade	
Drilling Method:	Sonic Rig		Sampling Method:	Continuous	
Gravel Pack:	10-20 Silica Sand 38' - 25'		Seal:	Bentonite Chips 25-22.5'	
			Grout:	Bentonite Slurry 22.5' - 0'	
Casing Type:	Schedule 40 PVC		Diameter:	2"	Hole Diameter:
					6.25"
Screen Type:	Schedule 40 PVC		Slot:	0.010"	Diameter:
					2"
			Length:	10'	Total Depth:
					38'
					Depth to Liquid:
					—
					Depth to Water:
					34'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Flush
					0				Brown, med. unconsolidated sand. No stain, moist, ferrous odor. Backfill	Mount
					1					
					2					
					3					
					4					
					5					
					6				Lt. Olive gray med. s. str.	
					7				No stain, v. slight wet odor	
					8					
					9				Lt. grayish Brown med. s. str.	
					10				No stain, slt. sweet wet odor.	
					11				Lt. Brown med. s. str.	
					12				No stain, slt. sweet odor, faint	
					13					
					14				Lt. Brown med-coarse sand str.	
					15				No stain, faint trash/garbage like odor	

Well

S 3/4 sand
10's screen1 bag chips
22 1/2 chipsCompliance • Engineering • Remediation
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Boring/Well #

SB13

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-17-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt. Brown med sand st. No stain, slight garbage odor	
	Dry	78.9	No		16					
		19.6			17				Lt Brownish gray med. s. stn. ^{stronger} stronger trash odor	
					18				SAA	
	Dry	24.0	No		19				Hard, cemented siltstn.	
					20				Lt Brown med. s. stn. No s/o	
					21				SAA	
	Dry		No		22				Lt. grayish Brown med. s. stn. No stain slight damp odor	
	Slt. Moist	12.6	No		23				Brown med. fine s. stn. Partially friable, Sltly moist, held up above by siltstn. No stain/odor	
	Dry				24					
					25				Bluish gray. sandy silt stn.	
	Dry	0.0		SB13 @ 25 -27.5'	26				No s/o.	
					27				continued deeper per OCP request. on 5/19/17	
	Dry	25.6	No		28				SAA. Bluish gray sandy siltstn. No s/o	
					29				Brown to H. Brown med. s. stn.	
					30				No stain, no odor	
					31				SAA	
	Dry	85.6	Slt.	SB13 @ 31 -32.5'	32				Lt. gray med-coarse s. stn silt. stain, silt. damp odor	
	Moist	26.2			33				olive gray med-coarse s. stn siltly unconsolidated. Slt stain, damp odor	
					34				Brown med sand, loose. wet	
	Wet	10.1			35					
	Dry				36				Lt. Brown fn. silty sand stn. No s/o	
	Dry	5.7		SB13 @ 36 -37.5'	37				Bluish gray sandy siltstn. No s/o	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB14	Project:	Florance GC J #16A
Date:	5-18-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
Casing Type:	Schedule 40 PVC	Grout:	Bentonite Slurry 40'-0'
Screen Type:	Schedule 40 PVC	Diameter:	2"
Slot:	0.010"	Length:	—
		Hole Diameter:	6.25"
		Depth to Liquid:	—
		Total Depth:	40'
		Depth to Water:	~35'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Moist		No		0				Brown med. unconsolidated moist sand. No stain, peroxide odor. Backfill	No
					1				Treated Material	Well set.
					2					
					3					
					4					
	Dry		No		5				406 ppm Lt Brown med. s.stn. No s/o	All
					6				406 ppm Lt. tan med. s.stn. Mod stain/odor (HC)	PIDs
	Dry	419	No		7				Lt. orangeish tan silty fn-med s.stn. No s/o	<1,000 ppm.
					8				Lt. grayish tan med. s.stn.	
	Dry	33.2	No		9				No stain. No odor.	
					10					
					11				SAA Lt Brown/tan. med s.stn. No s/o	
	Dry	8.9	No		12					
					13					
	Dry	18.1	No		14				SAA. No s/o	
					15					



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Boring/Well #

SB 14

Project:

Florance GC I #16A

Project #

034016011.001

Date

5-18-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt. Brown/tan med s.stn.	
	Dry	30.8	No		16				No s/o.	
					17					
					18				SAA. No s/o	
	Dry	23.9	No		19					
					20					
					21				SAA. Lt Brown/tan med s.stn	
	Dry	17.0	No		22				No s/o	
					23					
					24				SAA. No s/o	
	Dry	18.6	No		25					
					26					
					27				SAA. No s/o	
					28					
					29				Lt. Brown/tan med-course s.stn. No s/o	
	Dry	28.0	No		30					
					31					
					32				SAA. No stain, odor	
					33					
	Dry	14.0	No		34				SAA. Lt brown med s.stn No s/o	
	Silt Moist	11.5	No		35				Lt. tan gray med. s.stn No odor	
	Almost	38.9	No		36				Dark brown to gray silty fine med sand No s/o	
		23.8			37				Lt. gray med-course s.stn No s/o	
	Wet	8.1							Lt. gray coarse sand. Wet.	
		3.2	No						Lt. Brown silty sand s.stn fine med. No s/o	

4.0

SB 14

@ 36-40'

37.5'

37.5-40

Bluish gray sand. Si Hstn. No s/o
@ 39-Lt. Narrown silt stn No s/o
No well set. Grouted up.



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB15	Project:	Florance GC J #16A
Date:	5-18-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
	25'-11'		11'-8.5'
Casing Type:	Schedule 40 PVC	Grout:	Bentonite Slurry
			8.5'-0'
Screen Type:	Schedule 40 PVC	Hole Diameter:	6.25"
		Depth to Liquid:	—
Slot:	0.010"	Total Depth:	25'
		Depth to Water:	20'-21'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	stick up Well Completion
					0				Brown med-coarse s.stn.	
					1				Dry. no stain/odor	
					2					
					3					
					4				SAA. No s/o	
					5					
					6				SAA. No s/o	
					7					
					8				lt. Brown/tan med-coarse	
					9				s.stn. Dry, No s/o	
					10					
					11				SAA. No s/o	
					12				slightly moist @ 12'	
					13					
					14				SAA. lt brown med-coarse	
					15				s.stn. No s/o	



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Boring/Well #

SB15

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-18-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	3.2	No		15				lt. Brown med-coarse s. stn.	
					16				No s/o	
					17					
					18				SAA. No s/o. Silt. moist	
	Silt. Moist	2.8	No		19				lt. Brown med-coarse s. stn. silt. moist oxidized, orangish brown, med-coarse lens s. stn. No s/o	
	Wet	1.7	No		20				lt. Brown med-coarse sand s. stn. silt. unconsolidated	
					21				Dark brown med. loose sand. wet No s/o	
	Dry				22				aquifer interval Brown. Fin-med silty sandstn. No s/o	
				SB15 @ 22.5	23				Bluish gray sandy silt stn. No s/o	
		0.3	No	-25	24				Dark bluish gray sandy silt stn	
	Dry				25				lt black gray No s/o	
					26					
					27				Monitoring Well set @ 23'	
					28				sand to 11'	
					29				chips to 8.5'	
					30				grout to 0'	
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB16	Project: Florance GC J #16A		
Date: 5-18-17	Project Number: 034016011.001		
Logged By: Daniel Burns	Drilled By: Cascade		
Drilling Method: Sonic Rig	Sampling Method: Continuous		
Seal: Bentonite Chips 11'-8.5'	Grout: Bentonite Slurry 8.5'-0'		
Diameter: 2"	Hole Diameter: 6.25"	Depth to Liquid: —	
Diameter: 2"	Length: 10'	Total Depth: 25'	Depth to Water: 20'

Elevation: **6,511 ft** Detector: **PID**

Gravel Pack: **10-20 Silica Sand 25'-11'**

Casing Type: **Schedule 40 PVC**

Screen Type: **Schedule 40 PVC** Slot: **0.010"**

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
					0				Lt. Brown/tan med-coarse s. str. No s/o	
					1					
					2					
					3					
					4				SAA. No s/o	
					5					
					6				Lt. Brown med. s. str. No s/o	
					7					
					8					
					9				SAA. No s/o v. silt. moist	
					10					
					11				SAA. No s/o v. silt moist	
					12					
					13					
					14				Lt. grayish tan med-coarse s. str. Dry. No s/o	
					15					



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Boring/Well #

SB16

Project:

Florance GC J#16A

Project #

034016011.001

Date

5-18-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt brown/ tan med-coarse s. stn	
	Dry	3.1	No		16				No s/o	
					17					
					18				Lt. Brown med s. stn. w/ silt. No s/o	
	Moist	2.7	No		19				SAA	
					20				Brown med sand w/ silt. slightly unconsolidated. Moist	
	Wet	15.3	No		21				Brown med. sand. Wet. No s/o	
			No		22				Brown silty sand, fin-med. slight consol.	
					23				Lt. Bluish gray sandy siltstn. No s/o	
	Dry			SB16 @ 22.5	24				Bluish gray sandy siltstn. No s/o	
	Dry	1.3	No	-25	25				Darker	
					26				Lt. Blue gray sandy siltstn. No s/o	
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					

MW set @ 23' 10' screen



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB17	Project:	Florance GC J #16A
Date:	5-19-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Drilling Method:	Sonic Rig	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
	25-11'		11'-8.5'
Casing Type:	Schedule 40 PVC	Hole Diameter:	6.25"
Screen Type:	Schedule 40 PVC	Total Depth:	25'
Slot:	0.010"	Depth to Liquid:	—
Diameter:	2"	Depth to Water:	22'
Length:	10'		

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stick Up Well Completion
					0				Brown, med. s. str.	
					1				No stain/odor	
					2					
					3					
	Dry	0.2	No		4				SAA. No s/o	
					5					
	Dry	0.0	No		6				SAA No s/o	
					7					
					8					
	Dry	0.0	No		9				SAA. No s/o	
					10					
					11					
	Dry	2.1	No		12				SAA No s/o	
					13					
					14					
	Dry	0.0	No		15				SAA No s/o	



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Boring/Well #

SB17

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-19-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		15				lt grayish tan. med. s. str.	
					16				No s/o	
					17					
					18					
	Slt. moist	0.5	No		19				SAA. silt to moist No s/o	
					20					
	moist	0.1	No		21				some orangish & brown oxid.	
	moist				22				med-coarse s. str. No s/o	
					23				semi-loose olive lt. brown med-coarse sand. No s/o	
	Dry	0.0	No	SB17 @ 22.5' - 25'	24				bluish gray sandy silt str.	
					25				No s/o	
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB18	Project:	Florance GC J #16A
Date:	5-19-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Drilling Method:	Sonic Rig	Sampling Method:	Continuous
Seal:	Bentonite Chips	Grout:	Bentonite Slurry
Casing Type:	Schedule 40 PVC	Diameter:	2"
Screen Type:	Schedule 40 PVC	Diameter:	2"
Slot:	0.010"	Hole Diameter:	6.25"
		Total Depth:	42.5
		Depth to Liquid:	
		Depth to Water:	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stick Well Completion
					0				Topsoil Organics	
					1				Med. sand, brown w/ oxid.	
					2				Lt. gray + orangish brown silty fn. sand	
					3					
					4				SAA Dry, No s/o	
					5					
					6				SAA, some interbedded lt. gray	
					7				fn. sandy silt str. No s/o	
					8					
					9				Cemented Dense, lt. orangish gray	
					10				med silty fn. sand str. No s/o	
					11				lt. bluish gray sandy silt str.	
					12				lt. gray tan fn-med s. str w/	
					13				some silt. No s/o Dry	
					14				lt. tan med s. str.	
					15				No stain, v. faint	
									clump sweet odor.	



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Boring/Well #

SB18

Project:

Florange GC J #16A

Project #

034016011.001

Date

5-19-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt. tan med. s. str. Dry	
	Dry	42.1	No		16				slt. sweet odor	
					17					
					18				Lt. tan med-coarse s. str.	
	Dry	153	No	SB18 @17.5'-20'	19				Dry. Same odor No stain	
					20					
	Dry	86.9	No		21				SAA. Lt. Brn	
					22				Lt Brown med-coarse s. str.	
					23				Dry No stain, slt. sweet odor.	
	Dry	106	No		24				SAA, slt. sweet odor	
					25					
	Dry	162	No		26				SAA. slt. sweet and acetone like odor No stain	
					27					
	Dry	303	No	SB18 @27.5'-30'	28				SAA. slt sweet + gassy odor No stain.	
					29					
					30					
	Dry	107	No		31				SAA. slt. sweet gas odor No stain	
					32					
					33				SAA. slt garbage odor	
	Dry	1799	No	SB18 @32.5'-35'	34				Lt. olive Lt. gray med-coarse s. str. Mure like odor	
					35					
	slt. moist	838	Yes		36				Lt. olive gray med-coarse s. str. Mod stain, gassy H ₂ C odor	
					37					



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Boring/Well #

SB18

Project:


Florance GC J #16A

Project #

034016011.001

Date

5-19-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
	V. Moist Wet	302	SLT.		38				Olive gray med. loose sand. V. moist silt stain. silt odor.	
	Dry	96.1			39				lt. brown fn. silty sand stn. No s/o Bluish gray sandy siltstone No s/o	
		33.2		SB18	40					
	Dry	33.2		@	41				Bluish gray sandy silt stn.	
				39-	42				No s/o	
				42.5	43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	SB19	Project:	Florance GC J #16A
Date:	5-20-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Drilling Method:	Sonic Rig	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
Casing Type:	Schedule 40 PVC	Hole Diameter:	6.25"
Screen Type:	Schedule 40 PVC	Depth to Liquid:	
Slot:	0.010"	Depth to Water:	
Diameter:	2"	Total Depth:	40'
Length:	10'		

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Topsoil, organics	
	Dry	0.0	No		1				-Lt. brownish orange + gray silty sand. Semi-consolidated. No s/s	
					2					
					3				Silt	
	Dry	0.0	No		4				→ Brown w/ oxidation, dense cemented fn. silty sandstn. No s/s	
					5				-Lt. Brown + gray interbedded fn. silty sand stones.	
	Dry	3.0	No		6				No s/s	
					7					
					8				SAA. No s/s	
	Dry	0.7	No		9					
					10				SAA. some oxidation. No s/s	
					11					
	Dry	1.2	No		12					
					13				SAA	
					14				-Lt. grayish tan med s.stn No s/s	
	Dry	0.3	No		15				-Lt. orangish brown. fn. silty sandstn. w/ silt stn. interbedded. No s/s	



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Boring/Well #

SB19

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-20-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	6.2	No		15				SAA. No s/o	
					16				Lt. Brown/tan med. s. str.	
					17				No s/o	
	DM	7.3	No		18				SAA. No s/o	
					19					
					20					
	Dry	18.5	No		21				SAA. Lt. Brown	
					22				Med-coarse s. str. No s/o	
					23					
	Dry	24.7	No		24				Lt. Brown med coarse s. str.	
					25				No stain, v. faint damp odor	
	Dry	25.2	No		26				SAA. No stain, v. faint damp/musty odor	
					27					
					28				SAA	
	Dry	42.4	No		29				-Lt gray med coarse s. str.	
					30				No stain, slight musty odor	
					31				SAA. No stain. Increasing musty sweet odor	
					32					
	Moist	1,429	yes	SB19 @ 32.5 - 35	33				Olive gray med-coarse s. str.	
					34				Med stain/odor. Slight gassy odor, more musty.	
					35					
	Wet	540	SH.		36				Lt. olive gray coarse loose sand.	
					37				Wet. SH. stain/odor	

Dy

SB19

-Lt olive brown silt fn. sandstone.
No stain, slight odor dry



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Boring/Well #

SB19

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-20-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
					39					
					40					
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

Dry

122

No

SB19
@
38-40

lt. Bluish gray sandy silt stm.
No s/o

Well set @ 38'
10' screen





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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB20 MW-17	Project: Florance GC J #16A
Date: 5-22-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Elevation: 6,511 ft	Detector: PID
Drilling Method: Sonic Rig	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry
Screen Type: Schedule 40 PVC	Hole Diameter: 6.25"
Slot: 0.010"	Depth to Liquid: 405-0
Diameter: 2"	Depth to Water: 90
Length: —	
Total Depth: 90	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Organics, topsoil	
					1				lt Brown med. s.stn.	
					2				No s/o	
					3				SAA.	
					4					
					5					
					6				lt. grayish tan - med to coarse s.stn, some gravel	
					7				No s/o	
					8					
					9				lt. Brown med. s.stn	
					10				No s/o	
					11				SAA. No s/o	
					12					
					13					
					14				SAA. No s/o	
					15					

No moisture, no bluish siltstone encountered,

Not advancing deeper.

Not setting well



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Boring/Well #

~~AW-18~~ SB20

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-22-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Lt. Brown med. s. str.	
	Dry	7.3	No		16				No s/o	
					17				- Brown + tan coarse s. str., interbedded w/ lt. gray siltstone pieces.	
					18				Lt. Brown/tan med-coarse	
	Dry	11.1	No		19				S. str. Dense. cementation.	
					20				No s/o	
					21				SAA: No s/o	
	Dry	18.0	No		22					
					23				SAA. No s/o	
	Dry	12.5	No		24					
					25					
	Dry	14.4	No		26				Lt. Brown/tan w/ some lt. gray and oxidized med coarse s. str.	
					27				- very silt. moist.	
					28				SAA. No s/o	
	Dry	6.0	No		29					
					30				- Lt. Brown w/ gray interbedded shale coarse s. str. No s/o	
	Dry	7.1	No		31				SAA. No s/o	
					32					
					33				- Dark brown med. s. str. No s/o	
	Dry	5.7	No		34				SAA No s/o	
					35					
	Dry	12.3	No	SB20 @35-37.5	36				SAA No s/o	
					37					

Dry

No

40.5

No recovery, bag broke open/
melted. Appeared to be Brown
S. str. No s/o.



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB21	Project: Florance GC J #16A
Date: 5-22-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Elevation: 6,511 ft	Detector: PID
Drilling Method: Sonic Rig	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry
Screen Type: Schedule 40 PVC	Diameter: 2" Length: 6.25'
Slot: 0.010"	Hole Diameter: 6.25" Depth to Liquid:
	Total Depth: 6.25' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	v. silt. moist	6.4	No	SB21 @ 0-5'	0				Lt. Brown/tan med-coarse sandstone. v. silt. moist. No stain/odor	No well set
	v. silt. moist	5.9	No	PID 6.3	1				SAA. No s/o, v. silt. moist	
	silt. moist	5.0	No		2				Brown. interbedded silt w/ med-coarse s. stn. No s/o.	
	silt. moist	1.3	No		3				SAA. No s/o	
	Dry				4				Dark brown, dense, hard fr-med s. stn. No s/o	
	Dry	4.9	No		5				Lt. brown/tan, dense, med coarse s. stn. No s/o	
	silt. moist	7.6	No		6				SAA	
	Dry				7				orange/brown oxidized med-coarse s. stn. No s/o	
					8				Lt gray to bluish gray fr. sandy	
					9					
					10					
					11					
					12					
					13					
					14					
					15					

silt stone No s/o



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Boring/Well #

SB21

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-22-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	1.3	No	SB21 @ 15'-20'	15				Bluish gray fine sandy siltstone	
					16				No s/o.	
					17					
					18					
	Dry		No		19				S.A.A.	
					20					
					21					
					22					
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-3R	Project:	Florance GC J #16A
Date:	5-15-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips 20-18
	37.5-20	Grout:	Bentonite Slurry 18-0
Casing Type:	Schedule 40 PVC	Diameter:	2"
		Length:	
Screen Type:	Schedule 40 PVC	Hole Diameter:	6.25"
		Depth to Liquid:	
Slot:	0.010"	Diameter:	2"
		Length:	15'
		Total Depth:	57.5'
		Depth to Water:	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
	Moist	243			0				Brown med sand. No stain	
					1				or peroxide odor.	
					2				Treated material	
					3				Moist	
	Moist	281			4					
					5					
					6					
					7					
	Moist	251			8				SAA, Treated	
		303			9				Material	
					10					
					11					
					12					
	Moist	303			13				SAA Treated	
					14				Material	
					15					

drawings to date

well set @ 37. 15' screen

sand to 20

chips to 17.5

6.5 bags sand
0.5 bags chip



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Boring/Well #

MW-3R

Project:

Florance GC J #16A

Project #

034016011.001

Date

8-5-15-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Moist	226	No		15				Treated material	
					16					
					17					
					18					
	Moist	88.7	No		19				Brownish gray med. sand w/ organic material. Decaying matter odor. Must be fill material still.	
					20					
	Moist		No		21				Brown med. sand unconsolidated moist. No stain, peroxide odor = Treated material	
		523			22					
					23					
	Moist		No		24				SAA, Treated material.	
					25					
	Moist	>5,000	No		26				Treated material, with some HC odor	
					27				Med-coarse sand, No stain, mod. HC odor	
					28					
	Dry	>5,000	No		29				Tan med-coarse s.stn. No stain, mod. HC odor.	
			Yes SLT		30				Lt. tan + gray med-coarse s.stn. silt. stain, strong HC odor	
	Silt. Moist		Yes		31				Olive Dark gray med-coarse s.stn. Mod-strong s/o. w/ some interbedded blue dark gray silty sand.	
		>5,000			32					
	Dry		Yes		33					
	Silt. Moist		No		34				Dark silty s.stn. No stain, s/o odor	
	Dry				35				Blueish gray sandy siltstn. Mod. odor	
		3130	No							
	Dry	143	No		36				Blueish gray sandy siltstn. No s/o	
					37				Reddish gray sandy siltstn. No HCs/o	

MW-3R @ 35 - 37.5



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-11	Project: Florance GC J #16A
Date: 5-13-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Drilling Method: Sonic Rig	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry
Screen Type: Schedule 40 PVC	Diameter: 2"
Slot: 0.010"	Length: 10'
Total Depth: 27.5'	Depth to Liquid: 17 or 23

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	stick up Well Completion
	Dry	0.0	No		0				lt. Brown/tan med-coarse sand stone. No stain/odor.	
					1					
					2					
	Dry	1.3	No		3				SAA. No s/o	
					4					
					5					
	Dry	0.1	No		6				SAA No s/o	
					7					
	slight moist	0.9	No		8				SAA No s/o	
					9				Tan med. coarse s. stn.	
					10					
	slt. moist	1.1	No		11				SAA No s/o	
					12					
					13				lt. reddish brown med-coarse s. stn. No s/o	
	slt moist	18.4	No		14				lt. gray tan med coarse s. stn. No s/o	
					15					



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Boring/Well #

MW-11

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-13-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	slight moist	21.2	No	MW-11 @ 15-17.5'	15				4. gray tan medium s.stn. slight damp/must odor.	
					16				No stain	
					17				wet ~ likely backfilled ^{drilled}	
	moist	12.9	NO		18				6" likely seep seam imm. to the west	
					19				4. gray tan med. coarse s.stn	
					20				No stain, damp odor	
	Dry	8.4	No		21				4. Brownish gray med-coarse s.stn No stain, st. must.	
					22					
					23				Dark brown med. sand w/ trace silt. No s/o	
	Very Moist	1.7	No		24				Blue gray silt stone w/ sand	
	Dry	0.8	No		25				No s/o	
					26				SAA No s/o	
	Dry	0.3	No		27					
					28					
					29					
					30					
					31				10' screen	
					32				6 bags sand	
					33				1/2 bag chips	
					34				4 bags grout	
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-12	Project:	Florance GC J #16A								
Date:	5-16-17	Project Number:	034016011.001								
Logged By:	Daniel Burns	Drilled By:	Cascade								
Drilling Method:	Sonic Rig	Sampling Method:	Continuous								
Seal:	Bentonite Chips	Grout:	Bentonite Slurry								
Casing Type:	Schedule 40 PVC	Diameter:	2"	Length:		Hole Diameter:		Depth to Liquid:			
Screen Type:	Schedule 40 PVC	Slot:	0.010"	Diameter:	2"	Length:		Total Depth:	40'	Depth to Water:	

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
					0				Topsoil, organics	
					1				Lt. brown + gray med. sand w/ oxidation, organics, Native soil.	
					2					
					3				SAA.	
					4				Interbedded gray fn. sandy silt stn.	
					5				No s/o	
					6				Lt. Brown fn-med s. stn. w/ox.	
					7				No s/o	
					8				Tan med. s. stn. No s/o	
					9				SAA, Dry, no stain, very slight chlorine/pool odor.	
					10					
					11				Lt. Brown med-fn s. stn Dry	
					12				No stain, similar chlorine odor	
					13					
					14				Lt. Brown med. s. stn. No stain, slt. sweet damp odor. Dry	
					15					



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Boring/Well #

MW-12

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-16-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	54.6	No		15				SAA, Dry, No stain, slt. sweet damp odor.	
					16					
					17					
					18				SAA.	
	Dry	58.0	No		19				- Lt. Brown med coarse s. stn. Dry	
					20				No stain, increasing sweet/damp odor	
					21					
	Dry	59.7	No		22				SAA, increasing sweet odor	
					23					
	Dry	96.8	No		24				Lt. Brown med coarse s. stn. Dry	
					25				No stain, increasing Sweet and musty odor.	
					26					
	Dry	88.5	No		27				SAA. No stain, slt sweet damp odor.	
					28					
	Dry	87.5	No	MW-12 @ 29.5' - 30'	29				Lt. Brown med. to coarse s. stn. Dry. No stain, Mod. sweet gassy odor.	
					30					
					31				SAA	
	Dry	1,009	No	MW-12 @ 30' - 32.5'	32				- Lt. gray med-coarse s. stn. Dry. Mod. strong gassy HC odor. slt. stain.	
		797			33				SAA	
					34				- Lt. Brown dense fn-med. silty Dry s. stn.	
	V. moist	724	No		35				- Dark brownish gray med. coarse s. stn and unconsol. sand. slt. stain / odor	
		662			36				Dark gray med. coarse sand, Mod s/o	
	V. moist wet	336			37				37.5 bluish sandy siltstone s/o	



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Boring/Well #

MW-12

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-16-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
	Dry				38				37.5' - Bluish gray sandy silt str.	
					39				No stain/odor	
	Dry	46.1	No	MW-12 @ 38-40	40				Interbedded w/ Lt. maroon siltstr. No s/o, dry	
					41					
					42				TD: 40, well set @ 39'	
					43				10' screen	
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-13	Project: Florance GC J #16A				
Date: 5-19-17	Project Number: 034016011.001				
Logged By: Daniel Burns	Drilled By: Cascade				
Drilling Method: Sonic Rig	Sampling Method: Continuous				
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips	Grout: Bentonite Slurry			
Casing Type: Schedule 40 PVC	Diameter: 2"	Hole Diameter: 6.25"	Depth to Liquid: 8.5-0'		
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2"	Length: 10'	Total Depth: 25'	Depth to Water: ~21'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stickup Well Completion
					0					
	Dry	1.6	No		1				Lt. Brown/tan med. sand stone.	
					2				No stain/odor. Dry	
					3					
	Dry	0.3	No		4				SAA. No s/o	
					5					
					6				SAA. No s/o	
	Dry	2.7	No		7					
					8					
					9				SAA. No s/o	
	Dry	5.1	No		10					
					11				SAA. No s/o	
	Dry	5.8	No		12					
					13					
					14					
	Dry	8.7	No		15				- Lt. grayish brown med-coarse s. stn. No s/o	



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Boring/Well #

MW-13

Project:

Florance GC J #16A

Project #

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Date

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Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	slt. moist		No		15				Brown semi loose, s. stu. med.	
					16				No s/o	
	slt. moist	22.1	No		17				oxidized, orangish brown med s. stu. No s/o	
					18				Light grayish brown med. s. stu.	
	slt. moist	494	No		19				Brown silty med s. stu. w/ oxidization	
	Moist	60.1			20				Lt. gray med. s. stu/sand semi loose. No color.	
					21				Lt. grayish brown med silty sand, loose w/ interbedded gray silt. No s/o.	
	V. moist	38.2	No		22				Bluish gray sandy siltstn.	
	Dry				23				No s/o	
				28 MW13 @ 22.5' - 25'	24				Lt. Bluish gray fn. sandy silt stu	
	Dry	19.6	No		25				No s/o. Hard.	
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					

MW set @ 23' 10' screen



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-14	Project: Florance GC J #16A
Date: 5-20-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Cascade
Elevation: 6,511 ft	Detector: PID
Drilling Method: Sonic Rig	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips 20-15,
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry
Screen Type: Schedule 40 PVC	Diameter: 2"
Slot: 0.010"	Length: 5
	Hole Diameter: 6.25'
	Depth to Liquid: 20'
	Depth to Water: ~11

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Stack up Well Completion
					0				Orangeish tan oxidized med. s. str.	
	DRY		No		1				No stain/color	
	slt. moist	4.3			2					
					3				lt. Brown med s. str.	
	slt. moist	2.1	No		4				No s/o	
	DRY				5					
	slt. moist	0.7	No		6				SAA. No s/o	
					7					
	slt. moist	2.0	No		8				Brown med-course s. str.	
					9				No s/o, slt. moist	
					10					
	V. moist	1.3	No		11				Brown - dark brown med-course loose sand. No s/o	
					12					
					13				Blueish gray sandy siltstr.	
	2.7	No		MW-14 @ 12.5-15'	14				No s/o	
					15					



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Boring/Well #

MW-14

Project:

Florance GC J #16A

Project #

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Date

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Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Bluish gray sand siltstn.	
					16				No s/s	
	Dry	0.2	No		17					
					18				- Lt. Bluish gray silty fn. sandstn.	
					19				No s/s	
	Dry	0.1	No		20				- Dense, lt. brown cemented silty fn. sandstn.	
					21					
					22					
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-15	Project:	Florance GC J #16A
Date:	5-20-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Drilling Method:	Sonic Rig	Sampling Method:	Continuous
Seal:	Bentonite Chips 20-18.5 5.5-3.5	Grout:	Bentonite Slurry 3.5-0
Casing Type:	Schedule 40 PVC	Diameter:	2"
Screen Type:	Schedule 40 PVC	Slot:	0.010"
		Length:	10'
		Total Depth:	20'
		Depth to Liquid:	~15

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Completion
					0				Loose med. sand, organics.	
					1					
	Dry	1.2	No		2				lt. gray tan med. sand str. w/ oxidation No s/o	
					3				lt brown med s. str. - No s/o	
	Dry	0.9	No		4					
	silt. moist				5				SAA. No s/o	
		2.1	No		6					
					7					
	Dry				8				lt. gray med s. str. No s/o	
	silt. moist	30.1	No		9				grayish brown coarse s. str. oxidized dry No stain, v. No s/o	
					10				lt. grayish brown med. s. str. silt. musty odor	
		91.5			11				SAA.	
	moist		Silt.		12				lt. gray med-coarse s. str. silt. stain, degraded gassy odor	
		1079	Yes	MW-15 @ 12.5-13.5'	13				Dark olive gray med. coarse s. str.	
		536	Yes		14				Dark gray med med-coarse s. str.	
	v. moist				15				Strong stain, H ₂ S gas odor.	



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Boring/Well #

MW-15

Project:

Florance GC J #16A

Project #

034016011.001

Date

5-20-19

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
	Wet	702	yes		16				Dark gray loose coarse sand. Strong stain, HC odor	
					17				- Lt. Brown silty fn. sandstone No s/o - Bluish gray sandy silt stn. No s/o	
	Dry	41.8	No		18				Bluish gray fn. sandy silt stn.	
				MW-15 @ 17.5	19					
	Dry	27.2	No	-20	20				- Lt. Maroon interbedded silt stn. No s/o	
					21					
					22					
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-16	Project:	Florance GC J #16A
Date:	5-20-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Cascade
Elevation:	6,511 ft	Drilling Method:	Sonic Rig
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	26.5'-24' 11'-8.5'
	24'-11'	Grout:	Bentonite Slurry 8.5'-0'
Casing Type:	Schedule 40 PVC	Diameter:	2"
		Length:	6.25"
Screen Type:	Schedule 40 PVC	Hole Diameter:	6.25"
		Depth to Liquid:	—
Slot:	0.010"	Diameter:	2"
		Length:	10'
		Total Depth:	26.5
		Depth to Water:	?

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Topsoil, access road fill	
					1				organics	
	Dry	0.6	No		2				- Lt. Brown med. s. stone.	
					3				No s/b dry	
	slt. moist	0.9	No		4				4 Brown med-coarse s. str.	
					5				No s/b	
	slt. moist	1.4	No		6				Lt. Brown med. s. str.	
					7				No s/b	
	slt. moist	4.3	No		8				SAA. No s/b	
					9					
					10					
	slt. moist	0.8	No		11				Lt. Brown / tan, med-coarse s. str.	
					12				No s/b	
					13				Lt. Brown coarse s. str.	
	Dry	1.1	No		14				No s/b	
					15					



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Boring/Well #

MW-16

Project:

Florance GC I #16A

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Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	10.4	No		15				Lt Brown med. s. stn	
					16				- Interbedded gray silt	
					17				- Lt grayish tan med s. stn	
	Pit				18				SAA No sh	
	Moist	7.6	No		19				- Brown coarse s. stn interbedded w/ gray silt. No s/o	
					20					
	SH. moist	6.9	No		21					
	Dry	4.0	No		22				Lt. Brown silty fn. sand stn. No s/o	
					23				Lt. bluish gray sandy silt stn	
				MW-16 @ 22.5-26	24				Dark bluish gray sandy silt stn	
	Dry	3.2	No		25				No s/o	
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-17	Project:	Florance GC J #16A
Date:	10-12-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Geomat Engineering
Drilling Method:	Hollow Stem Auger	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand 23-11'	Seal:	Bentonite Chips 11'-9'
		Grout:	Bentonite Slurry 9'-0'
Casing Type:	Schedule 40 PVC	Diameter:	2"
		Length:	
Screen Type:	Schedule 40 PVC	Hole Diameter:	8.25"
		Depth to Liquid:	
Slot:	0.010"	Diameter:	2"
		Length:	10'
Screen Type:	Schedule 40 PVC	Total Depth:	23'
		Depth to Water:	~19'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	stickup	Well Completion
					0						
					1						
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					10						
					11						
					12						
					13						
					14						
					15						

DM

0.0

No

0-10
cuttings

SP
-SM

Sampling drill cuttings
only,

Lt. orangish brown/tan
med. fn - med. clean
poorly sorted sand w/ trace
silt

No stain/odor

continuous sample 10-12', then
refusal

Tan med - coarse sand
no stain/odor

Dry

0.0

SP



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Boring/Well #

MW-17

Project:

Florance GC J #16A

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Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		15			SW	Lt. tan/brown med-coarse sand. Well sorted. No stain or odor. cuttings are now v. moist	
					16					
					17					
					18					
					19					
	V. Moist				20				Lt. bluish gray fn-sandy shalestone. No s/o. Indicative of confining layer. Set well @ 23' 10' screen stick up.	
	sttly wet.	0.0	No		21					
					22					
					23					
	Dry				24					
					25					
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-18	Project: Florance GC J #16A
Date: 10-12-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Geomat Engineering
Drilling Method: Hollow Stem Auger	Sampling Method: Continuous
Seal: Bentonite Chips 13'-11'	Grout: Bentonite Slurry 11'-0'
Diameter: 2" Length: 15'	Hole Diameter: 2.25" Depth to Liquid:
Screen Type: Schedule 40 PVC Slot: 0.010" Diameter: 2" Length: 10'	Total Depth: 25' Depth to Water:

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Observing cuttings only	Flush mount
					1					
					2					
	Dry		No		3			SW SM	Lt. brown tan, fr-med.	
					4				silty sand.	
		0.0			5				No stain/odor	
					6					
					7					
	Dry		No		8			SW SM	Lt. orangish tan, fr-med.	
					9				sand w/ silt. No s/o	
					10					
					11					
					12					
	Dry	0.0	No		13			SW SM	SAA.	
					14					
					15					



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Boring/Well #

MW-18

Project:

Florance GC J #16A

Project #

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Date

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	0.0	No		15					
					16			SW	Lt. tan/brown med/coarse sand.	
					17				No s/o	
					18					
					19					
					20				signs of lt. bluish gray shale	
	Dry	0.0	No		21				No s/o	
					22				Lt. blue gray shaleston.	
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-19	Project:	Florance GC J #16A
Date:	10-12-17	Project Number:	034016011.001
Logged By:	Daniel Burns	Drilled By:	Geomat Engineering
Elevation:	6,511 ft	Drilling Method:	Hollow Stem Auger
Detector:	PID	Sampling Method:	Continuous
Gravel Pack:	10-20 Silica Sand	Seal:	Bentonite Chips
	30'-18'		18'-16'
Casing Type:	Schedule 40 PVC	Grout:	Bentonite Slurry
			16'-0'
Screen Type:	Schedule 40 PVC	Diameter:	2"
		Length:	20'
Slot:	0.010"	Hole Diameter:	6.25"
		Depth to Liquid:	
		Total Depth:	42' 30'
		Depth to Water:	?

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0					Flush Mount
					1				Cuttings only	
					2					
	Dry	0.0	No		3			SM	Lt. Brown. fr-med.	
					4				silty sand.	
					5				No stain/odor	
					6					
					7					
					8					
	Dry	0.0	No		9					
					10					
					11				Lt. orangish tan	
					12			SW	med. sand w/ silt.	
					13			-SM	sorted. Non plastic	
	Dry	0.0	No		14				No stain/odor	
					15					



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Boring/Well #

MW-19

Project:

Florance GC J #16A

Project #

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Date

10-12-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15				Cuttings:	
					16					
					17			SP	Lt. brown/tan med. sand, poorly sorted	
					18				trace silt.	
					19				No s/o	
					20					
					21					
					22			SW -SM	Brown silty med-coarse sand	
					23					
					24				No s/o	
					25					
					26					
					27			SW SM	Brownish tan + reddish brown med. coarse sand w/ silt.	
					28					
					29					
					30				Lt. bluish gray shalestone siltstone.	
					31					
					32					
					33					
					34					
					35					
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-20	Project: Florance GC J #16A
Date: 10-12-17	Project Number: 034016011.001
Logged By: Daniel Burns	Drilled By: Geomat Engineering
Drilling Method: Hollow Stem Auger	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand 35' - 23'	Seal: Bentonite Chips 23' - 21'
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry 21' - 0'
Screen Type: Schedule 40 PVC	Diameter: 2" Length: 25'
Slot: 0.010"	Hole Diameter: 4.25" Depth to Liquid: —
	Total Depth: 35' Depth to Water: —

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion Flush Mount
					0				Cuttings only.	
					1					
					2			SP-	Lt. orangish tan med. -	
					3			SM	med coarse sand w/ silt.	
					4				No stain/odor	
					5					
					6					
					7			SP	5AA.	
					8			SM	No stain/odor	
					9					
					10					
					11					
					12			SP	Tan med. sand w/	
					13			SM	silt. No s/o	
					14					
					15					



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Boring/Well #

MW-20

Project:

Florance GC J #16A

Project #

034016011.001

Date

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16					
	Dry	0.0	No		17			SP.	Lt. Brown med. sand, trace silt. No s/o	
					18					
					19					
					20					
					21			SW	Brown med med/coarse	
	Dry	0.0	No		22			SM	sand w/silt No s/o	
					23					
					24					
					25					
					26				SAA.	
					27				No s/o	
	Dry	0.0	No		28					
					29					
					30					
					31			SP	Brown med. silty sand	
	moist				32			SM	No s/o	
					33					
	dry	0.0	No		34					
					35				Lt. Blue-gray shale/siltstn.	
					36					
					37					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number:	MW-21	Project:	Florance GC J #16A								
Date:	10-12-17	Project Number:	034016011.001								
Logged By:	Daniel Burns	Drilled By:	Geomat Engineering								
Drilling Method:	Hollow Stem Auger	Sampling Method:	Continuous								
Seal:	Bentonite Chips 28' - 26'	Grout:	Bentonite Slurry 26' - 0'								
Casing Type:	Schedule 40 PVC	Hole Diameter:	4" 6.25"	Depth to Liquid:	NA						
Screen Type:	Schedule 40 PVC	Slot:	0.010"	Diameter:	2"	Length:	10'	Total Depth:	40'	Depth to Water:	-32'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Continuous sampling:	
					1				Brown, med-fn sand, with	
					2				some silt. Loose, poorly	
					3				sorted. No stain/odor.	
					4				Likely Fill dirt of excavated	
					5				& treated material.	
					6				Native soil, using split spoon	
					7					
					8				No recovery, split spoon	
					9				sample 10-10.5, 75 blows	
					10					
					11				lt. Brownish tan med. sand. No stain	
					12				odor	
					13					
					14					
					15				15-15.5, 75 blows	



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Boring/Well #

MW-21

Project:

Florance GC J#16A

Project #

034016011.001

Date

10/21/17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	Dry	DB 0.3	No		15			SP	Lt. Brown med. sand. No stain/odor	
					16					
					17					
					18				Cuttings: 5.7 ppm	
					19					
	Dry	4.1	No		20			SP	4" recovery/ 75 blows.	
					21				Lt. Brown med sand. No s/o	
					22					
					23					
					24					
					25					
	Dry	0.0	No		26			ML	Lt. gray/tan 8" recovery. Fr. sandy silt/shale. No stain/odor.	
					27					
					28					
					29					
					30					
	DRY	6.0	NO		31				5" recovery Lt gray/tan fr. Sand no stain/no odor	
					32					
					33					
					34					
					35					
	wet	146.8	NO		36				6" recovery Lt gray fr sandy silt no stain slight odor	
					37					
					38					
					39					
	DRY		NO		40				Blue gray shale no stain no odor 2	



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: QMW-82 QMW-82	Project: Florance GC J #16A				
Date: 10/13/17	Project Number: 034016011.001				
Logged By: Eric Carroll Daniel Burns	Drilled By: Geomat Engineering				
Elevation: 6,511 ft	Detector: PID	Drilling Method: Hollow Stem Auger	Sampling Method: Continuous		
Gravel Pack: 10-20 Silica Sand	38' - 26'	Seal: Bentonite Chips	26' - 24'	Grout: Bentonite Slurry	24' - 0'
Casing Type: Schedule 40 PVC	Diameter: 2"	Length: 28'	Hole Diameter: 6.25"	Depth to Liquid: AWA	
Screen Type: Schedule 40 PVC	Slot: 0.010"	Diameter: 2"	Length: 10'	Total Depth: 38'	Depth to Water: ~33'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				Cuttings only	Flush
					1					
					2					
					3					
					4					
					5					
	dry	0.0	NO		6			SM	light brown sand tan fq - md sand NO stain no odor	
					7					
					8					
					9					
					10					
	dry	0.0	NO		11			SM	light orangish tan coarse sand no stain/odor	
					12					
					13					
					14					
					15					



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LT Environmental, Inc.

Boring/Well #

MW- 22

Project:

Florange GC J #16A

Project #

034016011.001

Date

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					15					
					16				light orangish tan fine Silty Sand	
	DRY	0.0	NO		17			SW-SM	NO staining/odor	
					18					
					19					
					20					
					21					
	DRY	0.0	NO		22			SW-SM	light brown med sand some silt	
					23					
					24				NO staining/odor	
					25					
					26					
					27			SW-SM	SAA	
	DRY	0.0	NO		28					
					29				NO staining/odor	
					30					
					31			SW-SM	Dark brown gray fine sand trace silt	
	MOIST	0.0	NO		32					
					33				NO stain/odor	
					34					
					35					
					36					
					37					



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Boring/Well #

MW - 22

Project:

Florance GC J #16A

Project #

034016011.001

Date

10/13/17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38				Blue gray shale / siltstone	
	moist	0.0	NP		39				NO staining / NO odor	
					40					
					41				Set well @ 38'	
					42				10' screen	
					43				Flush mount	
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-23	Project: Florance GC J #16A
Date: 10/13/17	Project Number: 034016011.001
Logged By: E. Carroll Daniel Burns	Drilled By: Geomat Engineering
Drilling Method: Hollow Stem Auger	Sampling Method: Continuous
Gravel Pack: 10-20 Silica Sand	Seal: Bentonite Chips
Casing Type: Schedule 40 PVC	Grout: Bentonite Slurry
Screen Type: Schedule 40 PVC	Hole Diameter: 7"
Slot: 0.010"	Depth to Liquid: NA
Diameter: 2"	Length: 30'
Diameter: 2"	Length: 10'
Total Depth: 40'	Depth to Water: -35'

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					0				<i>cuttings only</i>	
	Moist	0.0	NO		1			OH	Dark brown top soil	
					2				NO staining / odor	
					3					
					4					
					5					
					6					
	Dry	0.0	NO		7			SW-SM	light brown med sand	
					8				med sand trace silt poorly sorted	
					9				NO staining / odor	
					10					
					11					
					12					
	Dry	0.0	NO		13			SW-SM	SAA	
					14				NO staining / odor	
					15					



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Boring/Well #

MW-23

Project:

Florance GC J #16A

Project #

034016011.001

Date

10-13-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
	moist	0.0	NO		15					
					16				light orangish brown	
					17			SW-SM	fn Sandy silt	
					18				NO staining/odor	
					19					
					20					
					21				Brownish fn sand trace silt	
	moist	0.0	NO		22			SW-SM	NO staining/odor	
					23					
					24					
					25					
					26					
					27					
	moist	0.0	NO		28			SW-SM	SAA	
					29				NO staining/odor	
					30					
	moist	0.0	NO		31				Dark brown fn sand some silt	
					32				NO staining/odor	
					33					
					34				Signs of Siltstone/shale	
					35					
					36					
					37					



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Boring/Well #

MW-23

Project:

Florance GC J #16A

Project #

034016011.001

Date

10-13-17

Penetration Resistance	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
					37					
					38					
	Moist	3.0	No		39					
					40					
					41					
					42					
					43					
					44					
					45					
					46					
					47					
					48					
					49					
					50					
					51					
					52					
					53					
					54					
					55					
					56					
					57					
					58					
					59					

SAA

Blue gray shale/siltstone

TD = 40'

10' screen

Appendix B



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 23, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL:

FAX

RE: Florance GC J #16A

OrderNo.: 1705B29

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/22/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B29

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB18 @ 17.5-20'

Project: Florance GC J #16A

Collection Date: 5/19/2017 5:20:00 PM

Lab ID: 1705B29-001

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/22/2017 1:07:16 PM	31865
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2017 1:07:16 PM	31865
Surr: DNOP	105	70-130		%Rec	1	5/22/2017 1:07:16 PM	31865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/22/2017 9:35:11 AM	31844
Surr: BFB	95.3	54-150		%Rec	1	5/22/2017 9:35:11 AM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	5/22/2017 9:35:11 AM	31844
Toluene	ND	0.034		mg/Kg	1	5/22/2017 9:35:11 AM	31844
Ethylbenzene	ND	0.034		mg/Kg	1	5/22/2017 9:35:11 AM	31844
Xylenes, Total	ND	0.069		mg/Kg	1	5/22/2017 9:35:11 AM	31844
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	5/22/2017 9:35:11 AM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B29

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB18 @ 27.5-30'

Project: Florance GC J #16A

Collection Date: 5/19/2017 5:25:00 PM

Lab ID: 1705B29-002

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/22/2017 1:29:29 PM	31865
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/22/2017 1:29:29 PM	31865
Surr: DNOP	96.7	70-130		%Rec	1	5/22/2017 1:29:29 PM	31865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/22/2017 9:59:18 AM	31844
Surr: BFB	93.8	54-150		%Rec	1	5/22/2017 9:59:18 AM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	5/22/2017 9:59:18 AM	31844
Toluene	ND	0.034		mg/Kg	1	5/22/2017 9:59:18 AM	31844
Ethylbenzene	ND	0.034		mg/Kg	1	5/22/2017 9:59:18 AM	31844
Xylenes, Total	ND	0.069		mg/Kg	1	5/22/2017 9:59:18 AM	31844
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	5/22/2017 9:59:18 AM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B29

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB18 @ 32.5-35'

Project: Florance GC J #16A

Collection Date: 5/19/2017 5:30:00 PM

Lab ID: 1705B29-003

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	10	9.7		mg/Kg	1	5/22/2017 1:51:37 PM	31865
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/22/2017 1:51:37 PM	31865
Surr: DNOP	97.2	70-130		%Rec	1	5/22/2017 1:51:37 PM	31865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/22/2017 10:23:29 AM	31844
Surr: BFB	98.0	54-150		%Rec	1	5/22/2017 10:23:29 AM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	5/22/2017 10:23:29 AM	31844
Toluene	ND	0.034		mg/Kg	1	5/22/2017 10:23:29 AM	31844
Ethylbenzene	ND	0.034		mg/Kg	1	5/22/2017 10:23:29 AM	31844
Xylenes, Total	ND	0.067		mg/Kg	1	5/22/2017 10:23:29 AM	31844
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	1	5/22/2017 10:23:29 AM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B29

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB18 @ 39-42.5'

Project: Florance GC J #16A

Collection Date: 5/19/2017 5:55:00 PM

Lab ID: 1705B29-004

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/22/2017 2:14:03 PM	31865
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2017 2:14:03 PM	31865
Surr: DNOP	93.7	70-130		%Rec	1	5/22/2017 2:14:03 PM	31865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/22/2017 10:47:39 AM	31844
Surr: BFB	90.7	54-150		%Rec	1	5/22/2017 10:47:39 AM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.016		mg/Kg	1	5/22/2017 10:47:39 AM	31844
Toluene	ND	0.032		mg/Kg	1	5/22/2017 10:47:39 AM	31844
Ethylbenzene	ND	0.032		mg/Kg	1	5/22/2017 10:47:39 AM	31844
Xylenes, Total	ND	0.063		mg/Kg	1	5/22/2017 10:47:39 AM	31844
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	1	5/22/2017 10:47:39 AM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B29

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB19 @ 32.5-35'

Project: Florance GC J #16A

Collection Date: 5/20/2017 5:15:00 PM

Lab ID: 1705B29-005

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	49	9.8		mg/Kg	1	5/22/2017 2:36:09 PM	31865
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2017 2:36:09 PM	31865
Surr: DNOP	97.3	70-130		%Rec	1	5/22/2017 2:36:09 PM	31865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	41	13		mg/Kg	5	5/22/2017 11:11:50 AM	31844
Surr: BFB	154	54-150	S	%Rec	5	5/22/2017 11:11:50 AM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.067		mg/Kg	5	5/22/2017 11:11:50 AM	31844
Toluene	ND	0.13		mg/Kg	5	5/22/2017 11:11:50 AM	31844
Ethylbenzene	ND	0.13		mg/Kg	5	5/22/2017 11:11:50 AM	31844
Xylenes, Total	0.39	0.27		mg/Kg	5	5/22/2017 11:11:50 AM	31844
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	5	5/22/2017 11:11:50 AM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B29

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB19 @ 38-40'

Project: Florance GC J #16A

Collection Date: 5/20/2017 5:20:00 PM

Lab ID: 1705B29-006

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/22/2017 2:58:18 PM	31865
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/22/2017 2:58:18 PM	31865
Surr: DNOP	98.4	70-130		%Rec	1	5/22/2017 2:58:18 PM	31865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	5/22/2017 11:35:59 AM	31844
Surr: BFB	98.1	54-150		%Rec	1	5/22/2017 11:35:59 AM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.017	0.016		mg/Kg	1	5/22/2017 11:35:59 AM	31844
Toluene	ND	0.033		mg/Kg	1	5/22/2017 11:35:59 AM	31844
Ethylbenzene	ND	0.033		mg/Kg	1	5/22/2017 11:35:59 AM	31844
Xylenes, Total	ND	0.065		mg/Kg	1	5/22/2017 11:35:59 AM	31844
Surr: 4-Bromofluorobenzene	111	66.6-132		%Rec	1	5/22/2017 11:35:59 AM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705B29

23-May-17

Client: Williams Four Corners

Project: Florance GC J #16A

Sample ID	LCS-31865		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31865		RunNo: 42945					
Prep Date:	5/22/2017		Analysis Date: 5/22/2017		SeqNo: 1351371		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.5	73.2	114			
Surr: DNOP	4.8		5.000		96.8	70	130			

Sample ID	MB-31865		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	31865		RunNo:	42945				
Prep Date:	5/22/2017		Analysis Date:	5/22/2017		SeqNo:	1351372		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	9.8		10.00		97.8	70	130				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705B29

23-May-17

Client: Williams Four Corners

Project: Florance GC J #16A

Sample ID	MB-31844		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352236		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.4	54	150			

Sample ID	LCS-31844		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352237		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.1	76.4	125			
Surr: BFB	1000		1000		103	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705B29

23-May-17

Client: Williams Four Corners

Project: Florance GC J #16A

Sample ID	MB-31844		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352252		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

Sample ID	LCS-31844		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352253		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705B29

RcptNo: 1

Received By: Anne Thorne 5/22/2017 7:15:00 AM

Completed By: Anne Thorne 5/22/2017 8:03:13 AM

Reviewed By: *[Signature]*

5/22/17

[Signature]

[Signature]

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

Chain-of-Custody Record

Client: Williams Four Corners
Aaron Galer / Matt Webre
 Mailing Address: 17755 Arroyo Dr
Bloomfield NM 87413
 Phone #: 505 632 4442
 email or Fax#: aaron.galer@williams.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☒ EDD (Type) QVE

Date	Time	Matrix	Sample Request ID
5-19-17	17:20	S	SB18@17.5-20'
↓	17:25		SB18@27.5-30'
↓	17:30		SB18@32.5-35'
↓	17:55		SB18@39-42.5'
5-20-17	17:15		SB19@32.5-35'
↓	17:20		SB19@38-40'

Date: 5-20-17 Time: 19:10
 Relinquished by: [Signature]
 Date: _____ Time: _____
 Relinquished by: _____

Turn-Around Time: same day
☐ Standard ☒ Rush
 Project Name: Florence GCJ #116A
 Project #: _____

Project Manager:
Williams - A. Galer
LTE - D. Burns

Sampler: Danny Burns
 On Ice: ☒ Yes ☐ No
 Sample Temperature: 1.4

ACOS/22/17 Container Type and #	Preservative Type	HEAL No.
<u>ACOS/22/17</u>		<u>1705B29</u>
1-402	Coel	-001
↓	↓	-002
↓	↓	-003
↓	↓	-004
↓	↓	-005
↓	↓	-006

Received by: [Signature] Date: 5/22/17 Time: 07:15
 Received by: _____ Date: _____ Time: _____



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

<input checked="" type="checkbox"/> BTEX + MTBE + TMBs (8021)	<input checked="" type="checkbox"/> BTEX + MTBE + TPH (Gas only)	<input checked="" type="checkbox"/> TPH 8015B (GRO/DRO/MRO)	<input checked="" type="checkbox"/> TPH (Method 418.1)	<input checked="" type="checkbox"/> EDB (Method 504.1)	<input checked="" type="checkbox"/> PAH's (8310 or 8270 SIMS)	<input checked="" type="checkbox"/> RCRA 8 Metals	<input checked="" type="checkbox"/> Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	<input checked="" type="checkbox"/> 8081 Pesticides / 8082 PCB's	<input checked="" type="checkbox"/> 8260B (VOA)	<input checked="" type="checkbox"/> 8270 (Semi-VOA)	<input checked="" type="checkbox"/> Air Bubbles (Y or N)
---	--	---	--	--	---	---	--	--	---	---	--

Remarks:
cc: aager@henn.com
dburns@henn.com



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 24, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL:

FAX

RE: Florance GC J 16A

OrderNo.: 1705B30

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 9 sample(s) on 5/22/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB13 @ 31-32.5'

Project: Florance GC J 16A

Collection Date: 5/19/2017 10:00:00 AM

Lab ID: 1705B30-001

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/23/2017 10:55:57 AM	31890
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/23/2017 10:55:57 AM	31890
Surr: DNOP	82.3	70-130		%Rec	1	5/23/2017 10:55:57 AM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2017 10:19:53 PM	31873
Surr: BFB	102	54-150		%Rec	1	5/23/2017 10:19:53 PM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/23/2017 10:19:53 PM	31873
Toluene	ND	0.047		mg/Kg	1	5/23/2017 10:19:53 PM	31873
Ethylbenzene	ND	0.047		mg/Kg	1	5/23/2017 10:19:53 PM	31873
Xylenes, Total	ND	0.094		mg/Kg	1	5/23/2017 10:19:53 PM	31873
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	1	5/23/2017 10:19:53 PM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB13 @ 36-37.5'

Project: Florance GC J 16A

Collection Date: 5/19/2017 10:10:00 AM

Lab ID: 1705B30-002

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/23/2017 12:47:49 PM	31890
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2017 12:47:49 PM	31890
Surr: DNOP	86.8	70-130		%Rec	1	5/23/2017 12:47:49 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2017 10:43:57 PM	31873
Surr: BFB	101	54-150		%Rec	1	5/23/2017 10:43:57 PM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/23/2017 10:43:57 PM	31873
Toluene	ND	0.048		mg/Kg	1	5/23/2017 10:43:57 PM	31873
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2017 10:43:57 PM	31873
Xylenes, Total	ND	0.096		mg/Kg	1	5/23/2017 10:43:57 PM	31873
Surr: 4-Bromofluorobenzene	119	66.6-132		%Rec	1	5/23/2017 10:43:57 PM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-13 @ 17.5-19'

Project: Florance GC J 16A

Collection Date: 5/19/2017 1:30:00 PM

Lab ID: 1705B30-003

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	5/23/2017 1:15:56 PM	31890
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2017 1:15:56 PM	31890
Surr: DNOP	89.4	70-130		%Rec	1	5/23/2017 1:15:56 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/23/2017 11:08:01 PM	31873
Surr: BFB	133	54-150		%Rec	1	5/23/2017 11:08:01 PM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/23/2017 11:08:01 PM	31873
Toluene	ND	0.048		mg/Kg	1	5/23/2017 11:08:01 PM	31873
Ethylbenzene	ND	0.048		mg/Kg	1	5/23/2017 11:08:01 PM	31873
Xylenes, Total	ND	0.096		mg/Kg	1	5/23/2017 11:08:01 PM	31873
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	1	5/23/2017 11:08:01 PM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-13 @ 22.5-25'

Project: Florance GC J 16A

Collection Date: 5/19/2017 1:40:00 PM

Lab ID: 1705B30-004

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/23/2017 1:44:01 PM	31890
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2017 1:44:01 PM	31890
Surr: DNOP	83.7	70-130		%Rec	1	5/23/2017 1:44:01 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/24/2017 12:44:05 AM	31873
Surr: BFB	93.8	54-150		%Rec	1	5/24/2017 12:44:05 AM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.039	0.024		mg/Kg	1	5/24/2017 12:44:05 AM	31873
Toluene	ND	0.048		mg/Kg	1	5/24/2017 12:44:05 AM	31873
Ethylbenzene	ND	0.048		mg/Kg	1	5/24/2017 12:44:05 AM	31873
Xylenes, Total	ND	0.096		mg/Kg	1	5/24/2017 12:44:05 AM	31873
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	5/24/2017 12:44:05 AM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB17 @ 22.5-25'

Project: Florance GC J 16A

Collection Date: 5/19/2017 3:20:00 PM

Lab ID: 1705B30-005

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/23/2017 2:12:05 PM	31890
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2017 2:12:05 PM	31890
Surr: DNOP	88.9	70-130		%Rec	1	5/23/2017 2:12:05 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/24/2017 1:08:05 AM	31873
Surr: BFB	103	54-150		%Rec	1	5/24/2017 1:08:05 AM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/24/2017 1:08:05 AM	31873
Toluene	ND	0.048		mg/Kg	1	5/24/2017 1:08:05 AM	31873
Ethylbenzene	ND	0.048		mg/Kg	1	5/24/2017 1:08:05 AM	31873
Xylenes, Total	ND	0.096		mg/Kg	1	5/24/2017 1:08:05 AM	31873
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	1	5/24/2017 1:08:05 AM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-14 @ 12.5-15'

Project: Florance GC J 16A

Collection Date: 5/20/2017 10:45:00 AM

Lab ID: 1705B30-006

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/23/2017 2:40:09 PM	31890
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/23/2017 2:40:09 PM	31890
Surr: DNOP	84.2	70-130		%Rec	1	5/23/2017 2:40:09 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/24/2017 1:32:07 AM	31873
Surr: BFB	94.8	54-150		%Rec	1	5/24/2017 1:32:07 AM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	5/24/2017 1:32:07 AM	31873
Toluene	ND	0.047		mg/Kg	1	5/24/2017 1:32:07 AM	31873
Ethylbenzene	ND	0.047		mg/Kg	1	5/24/2017 1:32:07 AM	31873
Xylenes, Total	ND	0.094		mg/Kg	1	5/24/2017 1:32:07 AM	31873
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	5/24/2017 1:32:07 AM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-15 @ 12.5'-13.5'

Project: Florance GC J 16A

Collection Date: 5/20/2017 12:15:00 PM

Lab ID: 1705B30-007

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	630	9.3		mg/Kg	1	5/23/2017 3:08:13 PM	31890
Motor Oil Range Organics (MRO)	110	47		mg/Kg	1	5/23/2017 3:08:13 PM	31890
Surr: DNOP	93.9	70-130		%Rec	1	5/23/2017 3:08:13 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	410	24		mg/Kg	5	5/24/2017 1:56:11 AM	31873
Surr: BFB	516	54-150	S	%Rec	5	5/24/2017 1:56:11 AM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.13	0.12		mg/Kg	5	5/24/2017 1:56:11 AM	31873
Toluene	2.7	0.24		mg/Kg	5	5/24/2017 1:56:11 AM	31873
Ethylbenzene	1.7	0.24		mg/Kg	5	5/24/2017 1:56:11 AM	31873
Xylenes, Total	16	0.48		mg/Kg	5	5/24/2017 1:56:11 AM	31873
Surr: 4-Bromofluorobenzene	136	66.6-132	S	%Rec	5	5/24/2017 1:56:11 AM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-15 @ 17.5-20'

Project: Florance GC J 16A

Collection Date: 5/20/2017 12:30:00 PM

Lab ID: 1705B30-008

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/23/2017 3:36:27 PM	31890
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2017 3:36:27 PM	31890
Surr: DNOP	85.5	70-130		%Rec	1	5/23/2017 3:36:27 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/24/2017 2:44:12 AM	31873
Surr: BFB	99.6	54-150		%Rec	1	5/24/2017 2:44:12 AM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/24/2017 2:44:12 AM	31873
Toluene	ND	0.047		mg/Kg	1	5/24/2017 2:44:12 AM	31873
Ethylbenzene	ND	0.047		mg/Kg	1	5/24/2017 2:44:12 AM	31873
Xylenes, Total	ND	0.094		mg/Kg	1	5/24/2017 2:44:12 AM	31873
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	5/24/2017 2:44:12 AM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705B30

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-16 @ 22.5-26'

Project: Florance GC J 16A

Collection Date: 5/20/2017 2:20:00 PM

Lab ID: 1705B30-009

Matrix: SOIL

Received Date: 5/22/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/23/2017 4:04:26 PM	31890
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2017 4:04:26 PM	31890
Surr: DNOP	81.8	70-130		%Rec	1	5/23/2017 4:04:26 PM	31890
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/24/2017 3:08:12 AM	31873
Surr: BFB	95.2	54-150		%Rec	1	5/24/2017 3:08:12 AM	31873
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/24/2017 3:08:12 AM	31873
Toluene	ND	0.048		mg/Kg	1	5/24/2017 3:08:12 AM	31873
Ethylbenzene	ND	0.048		mg/Kg	1	5/24/2017 3:08:12 AM	31873
Xylenes, Total	ND	0.096		mg/Kg	1	5/24/2017 3:08:12 AM	31873
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	5/24/2017 3:08:12 AM	31873

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705B30

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	1705B30-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SB13 @ 31-32.5'	Batch ID:	31890	RunNo:	42984					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1352957	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.2	46.04	2.667	94.2	55.8	122			
Surr: DNOP	4.2		4.604		91.1	70	130			

Sample ID	1705B30-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SB13 @ 31-32.5'	Batch ID:	31890	RunNo:	42984					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1352958	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.40	2.667	90.8	55.8	122	5.09	20	
Surr: DNOP	4.4		5.040		88.2	70	130	0	0	

Sample ID	LCS-31890	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	31890	RunNo:	42984					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1352959	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.0	73.2	114			
Surr: DNOP	4.3		5.000		86.8	70	130			

Sample ID	MB-31890	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	31890	RunNo:	42984					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1352960	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.1	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705B30

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31873		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31873		RunNo: 42996					
Prep Date:	5/22/2017		Analysis Date: 5/23/2017		SeqNo: 1353389		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		95.8	54	150			

Sample ID	LCS-31873		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31873		RunNo: 42996					
Prep Date:	5/22/2017		Analysis Date: 5/23/2017		SeqNo: 1353390		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	76.4	125			
Surr: BFB	1100		1000		110	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705B30

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31873		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31873		RunNo: 42996					
Prep Date:	5/22/2017		Analysis Date: 5/23/2017		SeqNo: 1353425		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		114	66.6	132			

Sample ID	LCS-31873		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31873		RunNo: 42996					
Prep Date:	5/22/2017		Analysis Date: 5/23/2017		SeqNo: 1353426		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.5	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		115	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705B30

RcptNo: 1

Received By: Anne Thorne 5/22/2017 7:15:00 AM

Completed By: Anne Thorne 5/22/2017 8:15:19 AM

Reviewed By: *as* 5/22/17

Anne Thorne

Anne Thorne

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

Chain-of-Custody Record

Client: Williams Four Corners
Arnon Galer / Matt Webre
 Mailing Address: 17755 Arroyo Dr.
Bloomfield NM 87413
 Phone #: 505-632-4442
 email or Fax#: arnon.galer@williams.com
 QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other
☒ EDD (Type)

Turn-Around Time: see notes
☒ Standard ☐ Rush
 Project Name: Florence GCS #16A
 Project #: _____
 Project Manager: Williams - Arnon Galer
LTE-D. Burns
 Sampler: Danny Burns
 On Ice: ☒ Yes ☐ No
 Sample Temperature: 1.4

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
5-19-17	10:00	S	SB13@31-32.5'	1-402	cool	1765B30
	10:10		SB13@36-37.5'			201
	13:30		MW13@17.5-19'			202
	13:40		MW-13@22.5-25'			203
	15:20		SB17@22.5-25'			204
	10:45		MW-14@12.5-15'			205
	12:15		MW-15@12.5-13.5'			206
	12:30		MW-15@17.5-20'			207
	14:20		MW-16@22.5-26'			208
						209

Date: 5-20-17 Time: 19:00
 Relinquished by: [Signature]
 Date: _____ Time: _____
 Relinquished by: _____

Received by: [Signature] Date: 5/22/17 Time: _____
 Received by: _____ Date: _____ Time: _____

Remarks: CC: agaler@iterw.com
dburns@iterw.com

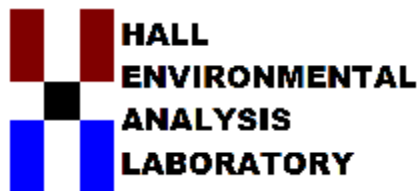


HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

<input checked="" type="checkbox"/> BTEX + MTBE + TMS (8021)	<input checked="" type="checkbox"/> TPH 8015B (GRO / DRO / MRO)	<input checked="" type="checkbox"/> TPH (Method 418.1)	<input checked="" type="checkbox"/> EDB (Method 504.1)	<input checked="" type="checkbox"/> PAHs (8310 or 8270 SIMS)	<input checked="" type="checkbox"/> RCRA 8 Metals	<input checked="" type="checkbox"/> Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	<input checked="" type="checkbox"/> 8081 Pesticides / 8082 PCBs	<input checked="" type="checkbox"/> 8260B (VOA)	<input checked="" type="checkbox"/> 8270 (Semi-VOA)	<input checked="" type="checkbox"/> Air Bubbles (Y or N)
--	---	--	--	--	---	--	---	---	---	--



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 17, 2017

Aaron Galer

Williams Four Corners
17755 Arroyo Drive
Bloomfield, NM 87413
TEL:
FAX

RE: Florance GC J 16A

OrderNo.: 1705707

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/13/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705707

Date Reported: 5/17/2017

CLIENT: Williams Four Corners

Client Sample ID: SB01 @30-32.5'

Project: Florance GC J 16A

Collection Date: 5/12/2017 12:00:00 PM

Lab ID: 1705707-001

Matrix: SOIL

Received Date: 5/13/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	450	9.2		mg/Kg	1	5/16/2017 11:54:48 AM	31741
Motor Oil Range Organics (MRO)	120	46		mg/Kg	1	5/16/2017 11:54:48 AM	31741
Surr: DNOP	117	70-130		%Rec	1	5/16/2017 11:54:48 AM	31741
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	610	48		mg/Kg	10	5/16/2017 9:20:53 AM	31734
Surr: BFB	263	54-150	S	%Rec	10	5/16/2017 9:20:53 AM	31734
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.36	0.24		mg/Kg	10	5/16/2017 9:20:53 AM	31734
Toluene	3.9	0.48		mg/Kg	10	5/16/2017 9:20:53 AM	31734
Ethylbenzene	2.0	0.48		mg/Kg	10	5/16/2017 9:20:53 AM	31734
Xylenes, Total	21	0.95		mg/Kg	10	5/16/2017 9:20:53 AM	31734
Surr: 4-Bromofluorobenzene	122	66.6-132		%Rec	10	5/16/2017 9:20:53 AM	31734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705707

Date Reported: 5/17/2017

CLIENT: Williams Four Corners

Client Sample ID: SB01 @40-42.5'

Project: Florance GC J 16A

Collection Date: 5/12/2017 12:05:00 PM

Lab ID: 1705707-002

Matrix: SOIL

Received Date: 5/13/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/16/2017 12:23:04 PM	31741
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/16/2017 12:23:04 PM	31741
Surr: DNOP	108	70-130		%Rec	1	5/16/2017 12:23:04 PM	31741
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/16/2017 8:24:39 PM	31734
Surr: BFB	96.4	54-150		%Rec	1	5/16/2017 8:24:39 PM	31734
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/16/2017 8:24:39 PM	31734
Toluene	ND	0.048		mg/Kg	1	5/16/2017 8:24:39 PM	31734
Ethylbenzene	ND	0.048		mg/Kg	1	5/16/2017 8:24:39 PM	31734
Xylenes, Total	ND	0.096		mg/Kg	1	5/16/2017 8:24:39 PM	31734
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	5/16/2017 8:24:39 PM	31734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705707

Date Reported: 5/17/2017

CLIENT: Williams Four Corners

Client Sample ID: SB02@20-22.5'

Project: Florance GC J 16A

Collection Date: 5/12/2017 3:50:00 PM

Lab ID: 1705707-003

Matrix: SOIL

Received Date: 5/13/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/16/2017 12:50:59 PM	31741
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/16/2017 12:50:59 PM	31741
Surr: DNOP	113	70-130		%Rec	1	5/16/2017 12:50:59 PM	31741
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/16/2017 8:48:41 PM	31734
Surr: BFB	93.6	54-150		%Rec	1	5/16/2017 8:48:41 PM	31734
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	5/16/2017 8:48:41 PM	31734
Toluene	ND	0.047		mg/Kg	1	5/16/2017 8:48:41 PM	31734
Ethylbenzene	ND	0.047		mg/Kg	1	5/16/2017 8:48:41 PM	31734
Xylenes, Total	ND	0.094		mg/Kg	1	5/16/2017 8:48:41 PM	31734
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	5/16/2017 8:48:41 PM	31734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705707

17-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	LCS-31741		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31741		RunNo: 42804					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1346873		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.2	73.2	114			
Surr: DNOP	3.9		5.000		77.5	70	130			

Sample ID	MB-31741		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31741		RunNo: 42804					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1346874		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		84.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705707

17-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31750		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31750		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347048		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		97.5	54	150			

Sample ID	LCS-31750		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31750		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347049		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		105	54	150			

Sample ID	MB-31734		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31734		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347060		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.8	54	150			

Sample ID	LCS-31734		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31734		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347061		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.8	76.4	125			
Surr: BFB	1000		1000		102	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705707

17-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31750		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31750		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347081		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Sample ID	LCS-31750		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31750		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347082		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Sample ID	MB-31734		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31734		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347093		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	66.6	132			

Sample ID	LCS-31734		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31734		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347094		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.4	80	120			
Toluene	0.99	0.050	1.000	0	99.4	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.7	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705707

RcptNo: 1

Received By: Andy Freeman

5/13/2017 10:30:00 AM

Andy Freeman

Completed By: Andy Jansson

5/15/2017 8:25:41 AM

Andy Jansson

Reviewed By: ENM

05/15/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			

[illegible]

Turn-Around Time:			
<input checked="" type="checkbox"/> Standard		<input type="checkbox"/> Rush	
Project Name:			
Florance GC J #16A			
Project #:			
Project Manager:			
Williams - Aaron Galer LTE- Danny Burns			
Sampler:			
On Ice:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample Temperature: 3, / °C			
Container Type and #	Preservative Type	HEAL No.	
1-402	cool	1705707	
↓	↓	-001	
		-002	
		-003	
Received by:		Date	Time
Smt Wat		5/12/17	1730
Received by:		Date	Time
[Signature]		5/13/17	1030

Project Manager:		Williams - Aaron Galer LTE - Danny Burns	
Sampler:			
On Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Sample Temperature: 31 °C			
Container Type and #	Preservative Type	HEAL No.	
1-402	cool	1705707	
↓	↓	-001	
		-002	
		-003	
Received by:	Smart Water	Date	Time
		5/12/17	1730
Received by:	Michael	Date	Time
		5/13/17	1030

[illegible]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any subcontracted data will be clearly noted on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 24, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL:

FAX

RE: Florance GC J 16A

OrderNo.: 1705863

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 26 sample(s) on 5/17/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-11@15-17.5'

Project: Florance GC J 16A

Collection Date: 5/13/2017 10:35:00 AM

Lab ID: 1705863-001

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/19/2017 3:37:14 PM	31794
Surr: BFB	95.4	70-130		%Rec	1	5/19/2017 3:37:14 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/18/2017 11:38:37 AM	31799
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 11:38:37 AM	31799
Surr: DNOP	94.9	70-130		%Rec	1	5/18/2017 11:38:37 AM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	5/19/2017 3:37:14 PM	31794
Toluene	ND	0.048		mg/Kg	1	5/19/2017 3:37:14 PM	31794
Ethylbenzene	ND	0.048		mg/Kg	1	5/19/2017 3:37:14 PM	31794
Xylenes, Total	ND	0.096		mg/Kg	1	5/19/2017 3:37:14 PM	31794
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	5/19/2017 3:37:14 PM	31794
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	5/19/2017 3:37:14 PM	31794
Surr: Dibromofluoromethane	106	70-130		%Rec	1	5/19/2017 3:37:14 PM	31794
Surr: Toluene-d8	112	70-130		%Rec	1	5/19/2017 3:37:14 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB03@20-22.5'

Project: Florance GC J 16A

Collection Date: 5/13/2017 1:30:00 PM

Lab ID: 1705863-002

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	1400	24		mg/Kg	5	5/19/2017 4:06:28 PM	31794
Surr: BFB	118	70-130		%Rec	5	5/19/2017 4:06:28 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	430	10		mg/Kg	1	5/18/2017 1:01:44 PM	31799
Motor Oil Range Organics (MRO)	85	50		mg/Kg	1	5/18/2017 1:01:44 PM	31799
Surr: DNOP	96.4	70-130		%Rec	1	5/18/2017 1:01:44 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.12		mg/Kg	5	5/19/2017 4:06:28 PM	31794
Toluene	6.6	0.24		mg/Kg	5	5/19/2017 4:06:28 PM	31794
Ethylbenzene	3.2	0.24		mg/Kg	5	5/19/2017 4:06:28 PM	31794
Xylenes, Total	35	0.47		mg/Kg	5	5/19/2017 4:06:28 PM	31794
Surr: 1,2-Dichloroethane-d4	128	70-130		%Rec	5	5/19/2017 4:06:28 PM	31794
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	5	5/19/2017 4:06:28 PM	31794
Surr: Dibromofluoromethane	82.2	70-130		%Rec	5	5/19/2017 4:06:28 PM	31794
Surr: Toluene-d8	103	70-130		%Rec	5	5/19/2017 4:06:28 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB03@25-27.5'

Project: Florance GC J 16A

Collection Date: 5/13/2017 1:45:00 PM

Lab ID: 1705863-003

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 4:36:22 PM	31794
Surr: BFB	97.9	70-130		%Rec	1	5/19/2017 4:36:22 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/18/2017 1:29:33 PM	31799
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2017 1:29:33 PM	31799
Surr: DNOP	90.5	70-130		%Rec	1	5/18/2017 1:29:33 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.023		mg/Kg	1	5/19/2017 4:36:22 PM	31794
Toluene	ND	0.047		mg/Kg	1	5/19/2017 4:36:22 PM	31794
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 4:36:22 PM	31794
Xylenes, Total	ND	0.093		mg/Kg	1	5/19/2017 4:36:22 PM	31794
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	5/19/2017 4:36:22 PM	31794
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	5/19/2017 4:36:22 PM	31794
Surr: Dibromofluoromethane	110	70-130		%Rec	1	5/19/2017 4:36:22 PM	31794
Surr: Toluene-d8	110	70-130		%Rec	1	5/19/2017 4:36:22 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB04@26-26.5'

Project: Florance GC J 16A

Collection Date: 5/13/2017 4:20:00 PM

Lab ID: 1705863-004

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	4400	98		mg/Kg	20	5/19/2017 5:05:45 PM	31794
Surr: BFB	119	70-130		%Rec	20	5/19/2017 5:05:45 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	5500	91		mg/Kg	10	5/18/2017 1:57:07 PM	31799
Motor Oil Range Organics (MRO)	810	460		mg/Kg	10	5/18/2017 1:57:07 PM	31799
Surr: DNOP	0	70-130	S	%Rec	10	5/18/2017 1:57:07 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.49		mg/Kg	20	5/19/2017 5:05:45 PM	31794
Toluene	ND	0.98		mg/Kg	20	5/19/2017 5:05:45 PM	31794
Ethylbenzene	6.9	0.98		mg/Kg	20	5/19/2017 5:05:45 PM	31794
Xylenes, Total	43	2.0		mg/Kg	20	5/19/2017 5:05:45 PM	31794
Surr: 1,2-Dichloroethane-d4	126	70-130		%Rec	20	5/19/2017 5:05:45 PM	31794
Surr: 4-Bromofluorobenzene	85.3	70-130		%Rec	20	5/19/2017 5:05:45 PM	31794
Surr: Dibromofluoromethane	88.1	70-130		%Rec	20	5/19/2017 5:05:45 PM	31794
Surr: Toluene-d8	104	70-130		%Rec	20	5/19/2017 5:05:45 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB04@30-32.5'

Project: Florance GC J 16A

Collection Date: 5/13/2017 4:30:00 PM

Lab ID: 1705863-005

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 5:34:44 PM	31794
Surr: BFB	94.2	70-130		%Rec	1	5/19/2017 5:34:44 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	12	10		mg/Kg	1	5/18/2017 2:24:52 PM	31799
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 2:24:52 PM	31799
Surr: DNOP	92.4	70-130		%Rec	1	5/18/2017 2:24:52 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.023		mg/Kg	1	5/19/2017 5:34:44 PM	31794
Toluene	ND	0.047		mg/Kg	1	5/19/2017 5:34:44 PM	31794
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 5:34:44 PM	31794
Xylenes, Total	ND	0.094		mg/Kg	1	5/19/2017 5:34:44 PM	31794
Surr: 1,2-Dichloroethane-d4	99.0	70-130		%Rec	1	5/19/2017 5:34:44 PM	31794
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	5/19/2017 5:34:44 PM	31794
Surr: Dibromofluoromethane	103	70-130		%Rec	1	5/19/2017 5:34:44 PM	31794
Surr: Toluene-d8	113	70-130		%Rec	1	5/19/2017 5:34:44 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB05@5-7.5'

Project: Florance GC J 16A

Collection Date: 5/14/2017 10:30:00 AM

Lab ID: 1705863-006

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	2000	47		mg/Kg	10	5/19/2017 6:04:18 PM	31794
Surr: BFB	115	70-130		%Rec	10	5/19/2017 6:04:18 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	320	9.5		mg/Kg	1	5/18/2017 2:52:36 PM	31799
Motor Oil Range Organics (MRO)	84	47		mg/Kg	1	5/18/2017 2:52:36 PM	31799
Surr: DNOP	101	70-130		%Rec	1	5/18/2017 2:52:36 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.24		mg/Kg	10	5/19/2017 6:04:18 PM	31794
Toluene	6.9	0.47		mg/Kg	10	5/19/2017 6:04:18 PM	31794
Ethylbenzene	ND	0.47		mg/Kg	10	5/19/2017 6:04:18 PM	31794
Xylenes, Total	48	0.95		mg/Kg	10	5/19/2017 6:04:18 PM	31794
Surr: 1,2-Dichloroethane-d4	131	70-130	S	%Rec	10	5/19/2017 6:04:18 PM	31794
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	10	5/19/2017 6:04:18 PM	31794
Surr: Dibromofluoromethane	82.6	70-130		%Rec	10	5/19/2017 6:04:18 PM	31794
Surr: Toluene-d8	104	70-130		%Rec	10	5/19/2017 6:04:18 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB05@15-17.5'

Project: Florance GC J 16A

Collection Date: 5/14/2017 10:50:00 AM

Lab ID: 1705863-007

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	20	4.8		mg/Kg	1	5/19/2017 6:33:23 PM	31794
Surr: BFB	100	70-130		%Rec	1	5/19/2017 6:33:23 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	28	9.2		mg/Kg	1	5/18/2017 3:20:24 PM	31799
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/18/2017 3:20:24 PM	31799
Surr: DNOP	94.7	70-130		%Rec	1	5/18/2017 3:20:24 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	5/19/2017 6:33:23 PM	31794
Toluene	ND	0.048		mg/Kg	1	5/19/2017 6:33:23 PM	31794
Ethylbenzene	ND	0.048		mg/Kg	1	5/19/2017 6:33:23 PM	31794
Xylenes, Total	0.11	0.095		mg/Kg	1	5/19/2017 6:33:23 PM	31794
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	5/19/2017 6:33:23 PM	31794
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	5/19/2017 6:33:23 PM	31794
Surr: Dibromofluoromethane	110	70-130		%Rec	1	5/19/2017 6:33:23 PM	31794
Surr: Toluene-d8	112	70-130		%Rec	1	5/19/2017 6:33:23 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB05@27.5-30'

Project: Florance GC J 16A

Collection Date: 5/14/2017 11:00:00 AM

Lab ID: 1705863-008

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 7:02:38 PM	31794
Surr: BFB	97.3	70-130		%Rec	1	5/19/2017 7:02:38 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/18/2017 3:48:09 PM	31799
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2017 3:48:09 PM	31799
Surr: DNOP	98.6	70-130		%Rec	1	5/18/2017 3:48:09 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	0.032	0.023		mg/Kg	1	5/19/2017 7:02:38 PM	31794
Toluene	ND	0.047		mg/Kg	1	5/19/2017 7:02:38 PM	31794
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 7:02:38 PM	31794
Xylenes, Total	ND	0.094		mg/Kg	1	5/19/2017 7:02:38 PM	31794
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	1	5/19/2017 7:02:38 PM	31794
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	5/19/2017 7:02:38 PM	31794
Surr: Dibromofluoromethane	107	70-130		%Rec	1	5/19/2017 7:02:38 PM	31794
Surr: Toluene-d8	110	70-130		%Rec	1	5/19/2017 7:02:38 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB06@22.5-25'

Project: Florance GC J 16A

Collection Date: 5/14/2017 2:00:00 PM

Lab ID: 1705863-009

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	43	23		mg/Kg	5	5/19/2017 7:32:07 PM	31794
Surr: BFB	98.6	70-130		%Rec	5	5/19/2017 7:32:07 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	150	10		mg/Kg	1	5/18/2017 4:16:00 PM	31799
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 4:16:00 PM	31799
Surr: DNOP	91.1	70-130		%Rec	1	5/18/2017 4:16:00 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.12		mg/Kg	5	5/19/2017 7:32:07 PM	31794
Toluene	ND	0.23		mg/Kg	5	5/19/2017 7:32:07 PM	31794
Ethylbenzene	ND	0.23		mg/Kg	5	5/19/2017 7:32:07 PM	31794
Xylenes, Total	ND	0.47		mg/Kg	5	5/19/2017 7:32:07 PM	31794
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	5	5/19/2017 7:32:07 PM	31794
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	5	5/19/2017 7:32:07 PM	31794
Surr: Dibromofluoromethane	96.9	70-130		%Rec	5	5/19/2017 7:32:07 PM	31794
Surr: Toluene-d8	100	70-130		%Rec	5	5/19/2017 7:32:07 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB06@27.5-30'

Project: Florance GC J 16A

Collection Date: 5/14/2017 2:10:00 PM

Lab ID: 1705863-010

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 8:00:53 PM	31794
Surr: BFB	92.4	70-130		%Rec	1	5/19/2017 8:00:53 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/18/2017 4:43:54 PM	31799
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 4:43:54 PM	31799
Surr: DNOP	90.9	70-130		%Rec	1	5/18/2017 4:43:54 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	5/19/2017 8:00:53 PM	31794
Toluene	ND	0.047		mg/Kg	1	5/19/2017 8:00:53 PM	31794
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 8:00:53 PM	31794
Xylenes, Total	ND	0.094		mg/Kg	1	5/19/2017 8:00:53 PM	31794
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	5/19/2017 8:00:53 PM	31794
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	5/19/2017 8:00:53 PM	31794
Surr: Dibromofluoromethane	107	70-130		%Rec	1	5/19/2017 8:00:53 PM	31794
Surr: Toluene-d8	110	70-130		%Rec	1	5/19/2017 8:00:53 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB07@27.5-30'

Project: Florance GC J 16A

Collection Date: 5/14/2017 4:50:00 PM

Lab ID: 1705863-011

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	4400	91		mg/Kg	20	5/19/2017 8:29:45 PM	31794
Surr: BFB	110	70-130		%Rec	20	5/19/2017 8:29:45 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	550	10		mg/Kg	1	5/18/2017 11:42:16 AM	31799
Motor Oil Range Organics (MRO)	62	50		mg/Kg	1	5/18/2017 11:42:16 AM	31799
Surr: DNOP	95.1	70-130		%Rec	1	5/18/2017 11:42:16 AM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	3.9	0.46		mg/Kg	20	5/19/2017 8:29:45 PM	31794
Toluene	40	0.91		mg/Kg	20	5/19/2017 8:29:45 PM	31794
Ethylbenzene	10	0.91		mg/Kg	20	5/19/2017 8:29:45 PM	31794
Xylenes, Total	120	1.8		mg/Kg	20	5/19/2017 8:29:45 PM	31794
Surr: 1,2-Dichloroethane-d4	125	70-130		%Rec	20	5/19/2017 8:29:45 PM	31794
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	20	5/19/2017 8:29:45 PM	31794
Surr: Dibromofluoromethane	82.4	70-130		%Rec	20	5/19/2017 8:29:45 PM	31794
Surr: Toluene-d8	101	70-130		%Rec	20	5/19/2017 8:29:45 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB07@32-35'

Project: Florance GC J 16A

Collection Date: 5/14/2017 4:55:00 PM

Lab ID: 1705863-012

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 8:59:06 PM	31794
Surr: BFB	93.5	70-130		%Rec	1	5/19/2017 8:59:06 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/18/2017 12:06:54 PM	31799
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2017 12:06:54 PM	31799
Surr: DNOP	86.8	70-130		%Rec	1	5/18/2017 12:06:54 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	5/19/2017 8:59:06 PM	31794
Toluene	ND	0.047		mg/Kg	1	5/19/2017 8:59:06 PM	31794
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 8:59:06 PM	31794
Xylenes, Total	ND	0.094		mg/Kg	1	5/19/2017 8:59:06 PM	31794
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	5/19/2017 8:59:06 PM	31794
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	5/19/2017 8:59:06 PM	31794
Surr: Dibromofluoromethane	110	70-130		%Rec	1	5/19/2017 8:59:06 PM	31794
Surr: Toluene-d8	106	70-130		%Rec	1	5/19/2017 8:59:06 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1705863**

Date Reported: **5/24/2017**

CLIENT: Williams Four Corners

Client Sample ID: MW-3R@25-30'

Project: Florance GC J 16A

Collection Date: 5/15/2017 11:00:00 AM

Lab ID: 1705863-013

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	360	25		mg/Kg	5	5/19/2017 9:28:44 PM	31794
Surr: BFB	104	70-130		%Rec	5	5/19/2017 9:28:44 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	160	9.9		mg/Kg	1	5/18/2017 12:31:21 PM	31799
Motor Oil Range Organics (MRO)	100	49		mg/Kg	1	5/18/2017 12:31:21 PM	31799
Surr: DNOP	91.1	70-130		%Rec	1	5/18/2017 12:31:21 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.12		mg/Kg	5	5/19/2017 9:28:44 PM	31794
Toluene	1.1	0.25		mg/Kg	5	5/19/2017 9:28:44 PM	31794
Ethylbenzene	0.63	0.25		mg/Kg	5	5/19/2017 9:28:44 PM	31794
Xylenes, Total	7.7	0.50		mg/Kg	5	5/19/2017 9:28:44 PM	31794
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	5	5/19/2017 9:28:44 PM	31794
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	5	5/19/2017 9:28:44 PM	31794
Surr: Dibromofluoromethane	100	70-130		%Rec	5	5/19/2017 9:28:44 PM	31794
Surr: Toluene-d8	106	70-130		%Rec	5	5/19/2017 9:28:44 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-3R@31-34.5'

Project: Florance GC J 16A

Collection Date: 5/15/2017 11:05:00 AM

Lab ID: 1705863-014

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	2000	94		mg/Kg	20	5/19/2017 9:58:14 PM	31794
Surr: BFB	99.1	70-130		%Rec	20	5/19/2017 9:58:14 PM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	780	10		mg/Kg	1	5/18/2017 12:55:50 PM	31799
Motor Oil Range Organics (MRO)	97	50		mg/Kg	1	5/18/2017 12:55:50 PM	31799
Surr: DNOP	91.7	70-130		%Rec	1	5/18/2017 12:55:50 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	1.4	0.47		mg/Kg	20	5/19/2017 9:58:14 PM	31794
Toluene	14	0.94		mg/Kg	20	5/19/2017 9:58:14 PM	31794
Ethylbenzene	4.2	0.94		mg/Kg	20	5/19/2017 9:58:14 PM	31794
Xylenes, Total	46	1.9		mg/Kg	20	5/19/2017 9:58:14 PM	31794
Surr: 1,2-Dichloroethane-d4	117	70-130		%Rec	20	5/19/2017 9:58:14 PM	31794
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	20	5/19/2017 9:58:14 PM	31794
Surr: Dibromofluoromethane	94.3	70-130		%Rec	20	5/19/2017 9:58:14 PM	31794
Surr: Toluene-d8	99.7	70-130		%Rec	20	5/19/2017 9:58:14 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-3R@35-37.5'

Project: Florance GC J 16A

Collection Date: 5/15/2017 11:10:00 AM

Lab ID: 1705863-015

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/20/2017 3:21:01 AM	31794
Surr: BFB	95.8	70-130		%Rec	1	5/20/2017 3:21:01 AM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/18/2017 1:20:14 PM	31799
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 1:20:14 PM	31799
Surr: DNOP	83.6	70-130		%Rec	1	5/18/2017 1:20:14 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.023		mg/Kg	1	5/20/2017 3:21:01 AM	31794
Toluene	ND	0.046		mg/Kg	1	5/20/2017 3:21:01 AM	31794
Ethylbenzene	ND	0.046		mg/Kg	1	5/20/2017 3:21:01 AM	31794
Xylenes, Total	ND	0.093		mg/Kg	1	5/20/2017 3:21:01 AM	31794
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	5/20/2017 3:21:01 AM	31794
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	5/20/2017 3:21:01 AM	31794
Surr: Dibromofluoromethane	109	70-130		%Rec	1	5/20/2017 3:21:01 AM	31794
Surr: Toluene-d8	110	70-130		%Rec	1	5/20/2017 3:21:01 AM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB08@30-32'

Project: Florance GC J 16A

Collection Date: 5/15/2017 1:10:00 PM

Lab ID: 1705863-016

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	320	49		mg/Kg	10	5/20/2017 3:50:15 AM	31794
Surr: BFB	104	70-130		%Rec	10	5/20/2017 3:50:15 AM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	130	9.8		mg/Kg	1	5/18/2017 1:44:54 PM	31799
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2017 1:44:54 PM	31799
Surr: DNOP	89.4	70-130		%Rec	1	5/18/2017 1:44:54 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	0.19	0.049		mg/Kg	2	5/23/2017 2:11:11 PM	31794
Toluene	2.2	0.097		mg/Kg	2	5/23/2017 2:11:11 PM	31794
Ethylbenzene	0.72	0.097		mg/Kg	2	5/23/2017 2:11:11 PM	31794
Xylenes, Total	9.0	0.19		mg/Kg	2	5/23/2017 2:11:11 PM	31794
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	2	5/23/2017 2:11:11 PM	31794
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	2	5/23/2017 2:11:11 PM	31794
Surr: Dibromofluoromethane	98.2	70-130		%Rec	2	5/23/2017 2:11:11 PM	31794
Surr: Toluene-d8	94.4	70-130		%Rec	2	5/23/2017 2:11:11 PM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB08@35-37.5'

Project: Florance GC J 16A

Collection Date: 5/15/2017 1:15:00 PM

Lab ID: 1705863-017

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/20/2017 4:19:27 AM	31794
Surr: BFB	96.9	70-130		%Rec	1	5/20/2017 4:19:27 AM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/18/2017 2:10:37 PM	31799
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/18/2017 2:10:37 PM	31799
Surr: DNOP	83.1	70-130		%Rec	1	5/18/2017 2:10:37 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.025		mg/Kg	1	5/20/2017 4:19:27 AM	31794
Toluene	ND	0.050		mg/Kg	1	5/20/2017 4:19:27 AM	31794
Ethylbenzene	ND	0.050		mg/Kg	1	5/20/2017 4:19:27 AM	31794
Xylenes, Total	ND	0.099		mg/Kg	1	5/20/2017 4:19:27 AM	31794
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	5/20/2017 4:19:27 AM	31794
Surr: 4-Bromofluorobenzene	110	70-130		%Rec	1	5/20/2017 4:19:27 AM	31794
Surr: Dibromofluoromethane	112	70-130		%Rec	1	5/20/2017 4:19:27 AM	31794
Surr: Toluene-d8	108	70-130		%Rec	1	5/20/2017 4:19:27 AM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB09@25-30'

Project: Florance GC J 16A

Collection Date: 5/15/2017 4:00:00 PM

Lab ID: 1705863-018

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	210	24		mg/Kg	5	5/20/2017 4:48:35 AM	31794
Surr: BFB	105	70-130		%Rec	5	5/20/2017 4:48:35 AM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	160	9.5		mg/Kg	1	5/18/2017 2:35:16 PM	31799
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/18/2017 2:35:16 PM	31799
Surr: DNOP	91.9	70-130		%Rec	1	5/18/2017 2:35:16 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.12		mg/Kg	5	5/20/2017 4:48:35 AM	31794
Toluene	ND	0.24		mg/Kg	5	5/20/2017 4:48:35 AM	31794
Ethylbenzene	ND	0.24		mg/Kg	5	5/20/2017 4:48:35 AM	31794
Xylenes, Total	3.2	0.48		mg/Kg	5	5/20/2017 4:48:35 AM	31794
Surr: 1,2-Dichloroethane-d4	113	70-130		%Rec	5	5/20/2017 4:48:35 AM	31794
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	5	5/20/2017 4:48:35 AM	31794
Surr: Dibromofluoromethane	98.8	70-130		%Rec	5	5/20/2017 4:48:35 AM	31794
Surr: Toluene-d8	98.9	70-130		%Rec	5	5/20/2017 4:48:35 AM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB09@30-35'

Project: Florance GC J 16A

Collection Date: 5/15/2017 4:10:00 PM

Lab ID: 1705863-019

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	270	24		mg/Kg	5	5/20/2017 5:17:41 AM	31794
Surr: BFB	99.2	70-130		%Rec	5	5/20/2017 5:17:41 AM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	150	10		mg/Kg	1	5/18/2017 2:59:53 PM	31799
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 2:59:53 PM	31799
Surr: DNOP	86.7	70-130		%Rec	1	5/18/2017 2:59:53 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	0.22	0.12		mg/Kg	5	5/20/2017 5:17:41 AM	31794
Toluene	1.5	0.24		mg/Kg	5	5/20/2017 5:17:41 AM	31794
Ethylbenzene	0.60	0.24		mg/Kg	5	5/20/2017 5:17:41 AM	31794
Xylenes, Total	6.2	0.48		mg/Kg	5	5/20/2017 5:17:41 AM	31794
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	5	5/20/2017 5:17:41 AM	31794
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	5	5/20/2017 5:17:41 AM	31794
Surr: Dibromofluoromethane	92.3	70-130		%Rec	5	5/20/2017 5:17:41 AM	31794
Surr: Toluene-d8	100	70-130		%Rec	5	5/20/2017 5:17:41 AM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB09@36-39'

Project: Florance GC J 16A

Collection Date: 5/15/2017 4:20:00 PM

Lab ID: 1705863-020

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/20/2017 5:46:43 AM	31794
Surr: BFB	97.6	70-130		%Rec	1	5/20/2017 5:46:43 AM	31794
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/18/2017 3:24:32 PM	31799
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/18/2017 3:24:32 PM	31799
Surr: DNOP	79.7	70-130		%Rec	1	5/18/2017 3:24:32 PM	31799
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.024		mg/Kg	1	5/20/2017 5:46:43 AM	31794
Toluene	ND	0.047		mg/Kg	1	5/20/2017 5:46:43 AM	31794
Ethylbenzene	ND	0.047		mg/Kg	1	5/20/2017 5:46:43 AM	31794
Xylenes, Total	ND	0.095		mg/Kg	1	5/20/2017 5:46:43 AM	31794
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	5/20/2017 5:46:43 AM	31794
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	5/20/2017 5:46:43 AM	31794
Surr: Dibromofluoromethane	109	70-130		%Rec	1	5/20/2017 5:46:43 AM	31794
Surr: Toluene-d8	109	70-130		%Rec	1	5/20/2017 5:46:43 AM	31794

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-12@27.5-30'

Project: Florance GC J 16A

Collection Date: 5/16/2017 10:35:00 AM

Lab ID: 1705863-021

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	39	9.2		mg/Kg	1	5/18/2017 8:46:30 AM	31800
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/18/2017 8:46:30 AM	31800
Surr: DNOP	88.4	70-130		%Rec	1	5/18/2017 8:46:30 AM	31800
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	24		mg/Kg	5	5/18/2017 11:15:12 AM	31781
Surr: BFB	96.7	54-150		%Rec	5	5/18/2017 11:15:12 AM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/18/2017 11:15:12 AM	31781
Toluene	ND	0.24		mg/Kg	5	5/18/2017 11:15:12 AM	31781
Ethylbenzene	ND	0.24		mg/Kg	5	5/18/2017 11:15:12 AM	31781
Xylenes, Total	ND	0.47		mg/Kg	5	5/18/2017 11:15:12 AM	31781
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	5	5/18/2017 11:15:12 AM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-12@30-32.5'

Project: Florance GC J 16A

Collection Date: 5/16/2017 10:40:00 AM

Lab ID: 1705863-022

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	420	9.3		mg/Kg	1	5/18/2017 9:10:52 AM	31800
Motor Oil Range Organics (MRO)	70	46		mg/Kg	1	5/18/2017 9:10:52 AM	31800
Surr: DNOP	101	70-130		%Rec	1	5/18/2017 9:10:52 AM	31800
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	330	24		mg/Kg	5	5/18/2017 10:35:18 AM	31781
Surr: BFB	379	54-150	S	%Rec	5	5/18/2017 10:35:18 AM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/18/2017 10:35:18 AM	31781
Toluene	0.80	0.24		mg/Kg	5	5/18/2017 10:35:18 AM	31781
Ethylbenzene	ND	0.24		mg/Kg	5	5/18/2017 10:35:18 AM	31781
Xylenes, Total	9.4	0.47		mg/Kg	5	5/18/2017 10:35:18 AM	31781
Surr: 4-Bromofluorobenzene	129	66.6-132		%Rec	5	5/18/2017 10:35:18 AM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-12@38-40'

Project: Florance GC J 16A

Collection Date: 5/16/2017 10:45:00 AM

Lab ID: 1705863-023

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/18/2017 9:35:17 AM	31800
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/18/2017 9:35:17 AM	31800
Surr: DNOP	87.2	70-130		%Rec	1	5/18/2017 9:35:17 AM	31800
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/18/2017 11:39:16 AM	31781
Surr: BFB	94.4	54-150		%Rec	1	5/18/2017 11:39:16 AM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/18/2017 11:39:16 AM	31781
Toluene	ND	0.047		mg/Kg	1	5/18/2017 11:39:16 AM	31781
Ethylbenzene	ND	0.047		mg/Kg	1	5/18/2017 11:39:16 AM	31781
Xylenes, Total	ND	0.094		mg/Kg	1	5/18/2017 11:39:16 AM	31781
Surr: 4-Bromofluorobenzene	107	66.6-132		%Rec	1	5/18/2017 11:39:16 AM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB10@32.5-35'

Project: Florance GC J 16A

Collection Date: 5/16/2017 3:00:00 PM

Lab ID: 1705863-024

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	84	9.8		mg/Kg	1	5/18/2017 9:59:41 AM	31800
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2017 9:59:41 AM	31800
Surr: DNOP	89.7	70-130		%Rec	1	5/18/2017 9:59:41 AM	31800
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	80	23		mg/Kg	5	5/18/2017 12:03:24 PM	31781
Surr: BFB	162	54-150	S	%Rec	5	5/18/2017 12:03:24 PM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/18/2017 12:03:24 PM	31781
Toluene	ND	0.23		mg/Kg	5	5/18/2017 12:03:24 PM	31781
Ethylbenzene	ND	0.23		mg/Kg	5	5/18/2017 12:03:24 PM	31781
Xylenes, Total	1.6	0.47		mg/Kg	5	5/18/2017 12:03:24 PM	31781
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	5	5/18/2017 12:03:24 PM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB10@35-37.5'

Project: Florance GC J 16A

Collection Date: 5/16/2017 3:05:00 PM

Lab ID: 1705863-025

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	86	9.9		mg/Kg	1	5/18/2017 10:24:12 AM	31800
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 10:24:12 AM	31800
Surr: DNOP	93.4	70-130		%Rec	1	5/18/2017 10:24:12 AM	31800
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	78	23		mg/Kg	5	5/18/2017 12:27:39 PM	31781
Surr: BFB	142	54-150		%Rec	5	5/18/2017 12:27:39 PM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/18/2017 12:27:39 PM	31781
Toluene	0.31	0.23		mg/Kg	5	5/18/2017 12:27:39 PM	31781
Ethylbenzene	ND	0.23		mg/Kg	5	5/18/2017 12:27:39 PM	31781
Xylenes, Total	1.3	0.47		mg/Kg	5	5/18/2017 12:27:39 PM	31781
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	5	5/18/2017 12:27:39 PM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705863

Date Reported: 5/24/2017

CLIENT: Williams Four Corners

Client Sample ID: SB10@38-40'

Project: Florance GC J 16A

Collection Date: 5/16/2017 3:10:00 PM

Lab ID: 1705863-026

Matrix: SOIL

Received Date: 5/17/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/18/2017 10:48:39 AM	31800
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 10:48:39 AM	31800
Surr: DNOP	84.2	70-130		%Rec	1	5/18/2017 10:48:39 AM	31800
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/18/2017 12:51:42 PM	31781
Surr: BFB	94.6	54-150		%Rec	1	5/18/2017 12:51:42 PM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	5/18/2017 12:51:42 PM	31781
Toluene	ND	0.047		mg/Kg	1	5/18/2017 12:51:42 PM	31781
Ethylbenzene	ND	0.047		mg/Kg	1	5/18/2017 12:51:42 PM	31781
Xylenes, Total	ND	0.093		mg/Kg	1	5/18/2017 12:51:42 PM	31781
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	5/18/2017 12:51:42 PM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31800	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	31800		RunNo:	42868				
Prep Date:	5/17/2017	Analysis Date:	5/18/2017		SeqNo:	1349094		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		88.6	70	130			

Sample ID	LCS-31800		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31800		RunNo: 42868					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349095		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.0	73.2	114			
Surr: DNOP	4.0		5.000		80.6	70	130			

Sample ID	MB-31799		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31799		RunNo: 42879					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349181		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		92.1	70	130			

Sample ID	LCS-31799		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31799		RunNo: 42879					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349182		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.3	73.2	114			
Surr: DNOP	4.5		5.000		89.4	70	130			

Sample ID	1705863-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	MW-11@15-17.5'		Batch ID: 31799		RunNo: 42876					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349519		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.2	46.04	3.428	100	55.8	122			
Surr: DNOP	4.5		4.604		97.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	1705863-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	MW-11@15-17.5'	Batch ID:	31799	RunNo:	42876					
Prep Date:	5/17/2017	Analysis Date:	5/18/2017	SeqNo:	1349930	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.6	47.85	3.428	101	55.8	122	4.38	20	
Surr: DNOP	4.8		4.785		99.8	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31781		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349815		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		94.7	54	150			

Sample ID	LCS-31781		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349816		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	76.4	125			
Surr: BFB	1100		1000		106	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-31781		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349834		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	66.6	132			

Sample ID	LCS-31781		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349835		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.2	80	120			
Toluene	1.0	0.050	1.000	0	99.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	mb-31781		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List			
Client ID:	PBS		Batch ID:	31781		RunNo:	42902			
Prep Date:	5/17/2017		Analysis Date:	5/18/2017		SeqNo:	1349963		Units: %Rec	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.0	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.48		0.5000		95.2	70	130			

Sample ID	lcs-31781		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles Short List			
Client ID:	LCSS		Batch ID:	31781		RunNo:	42902			
Prep Date:	5/17/2017		Analysis Date:	5/18/2017		SeqNo:	1349964		Units: %Rec	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.3	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.2	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.2	70	130			
Surr: Toluene-d8	0.47		0.5000		94.2	70	130			

Sample ID	mb-31794		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List			
Client ID:	PBS		Batch ID:	31794		RunNo:	42938			
Prep Date:	5/17/2017		Analysis Date:	5/19/2017		SeqNo:	1351203		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		109	70	130			
Surr: Toluene-d8	0.55		0.5000		110	70	130			

Sample ID	lcs-31794		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles Short List			
Client ID:	LCSS		Batch ID:	31794		RunNo:	42938			
Prep Date:	5/17/2017		Analysis Date:	5/19/2017		SeqNo:	1351204		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	70	130			
Toluene	1.1	0.050	1.000	0	115	70	130			
Ethylbenzene	0.99	0.050	1.000	0	99.0	70	130			
Xylenes, Total	3.0	0.10	3.000	0	99.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.5	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	lcs-31794		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/19/2017		SeqNo: 1351204		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.57		0.5000		113	70	130			

Sample ID	1705863-001ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	MW-11@15-17.5'		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/19/2017		SeqNo: 1351345		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.024	0.9407	0	103	70	130			
Toluene	1.1	0.047	0.9407	0.005979	117	70	130			
Ethylbenzene	0.96	0.047	0.9407	0	102	70	130			
Xylenes, Total	2.9	0.094	2.822	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.4704		101	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4704		104	70	130			
Surr: Dibromofluoromethane	0.49		0.4704		104	70	130			
Surr: Toluene-d8	0.53		0.4704		112	70	130			

Sample ID	1705863-001amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	MW-11@15-17.5'		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/19/2017		SeqNo: 1351346		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9606	0	105	70	130	4.66	20	
Toluene	1.1	0.048	0.9606	0.005979	113	70	130	1.27	20	
Ethylbenzene	0.97	0.048	0.9606	0	101	70	130	1.61	0	
Xylenes, Total	3.0	0.096	2.882	0	103	70	130	2.65	0	
Surr: 1,2-Dichloroethane-d4	0.47		0.4803		98.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4803		104	70	130	0	0	
Surr: Dibromofluoromethane	0.50		0.4803		104	70	130	0	0	
Surr: Toluene-d8	0.52		0.4803		109	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705863

24-May-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	mb-31794		SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/19/2017		SeqNo: 1351229		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	470		500.0		93.5	70	130			

Sample ID	lcs-31794		SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/19/2017		SeqNo: 1351230		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	70	130			
Surr: BFB	460		500.0		91.6	70	130			

Sample ID	1705863-002ams		SampType: MS		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	SB03@20-22.5'		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/20/2017		SeqNo: 1351324		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1200	24	121.2	1387	-141	63.2	128			S
Surr: BFB	2600		2425		108	70	130			

Sample ID	1705863-002amsd		SampType: MSD		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	SB03@20-22.5'		Batch ID: 31794		RunNo: 42938					
Prep Date:	5/17/2017		Analysis Date: 5/20/2017		SeqNo: 1351325		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1000	23	117.4	1387	-334	63.2	128	20.0	20	S
Surr: BFB	2900		2347		125	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705863

RcptNo: 1

Received By: Anne Thorne 5/17/2017 7:30:00 AM

Completed By: Andy Jansson 5/17/2017 9:04:38 AM

Reviewed By: ENM 05/17/17

Anne Thorne

Andy Jansson

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Williams Four Corners
 Aaron Galer/ Matt Webb
 Mailing Address: 17755 Arroyo Dr
 Bloomfield NM 87413
 Phone #: 505 632 4442

email or Fax#: _____
 QA/QC Package: _____
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other _____

EDD (Type) PDF

Date	Time	Matrix	Sample Request ID
5-16-17	10:35	S	MW-12@27.5-30'
	10:40		MW-12@30-32.5'
	10:45		MW-12@38-40'
	15:00		SB10@32.5-35'
	15:05		SB10@35-37.5'
	15:10		SB10@38-40'

[Large handwritten signature across the table]

Date: 5-16-17 17:45
 Date: 5/16/17 18:57
 Relinquished by: [Signature]
 Relinquished by: [Signature]

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Flourance GCJ #16A

Project #:

Project Manager:

Williams - A. Galer
 LTE - Danny Burns

Sampler: D-Burns

On Job: ☒ Yes ☐ No

Sample Temperature: 1.0°

Container Type and #	Preservative Type	HEAL No
1-402	cool	1705863
		-021
		-022
		-023
		-024
		-025
		-026

[Large handwritten signature across the table]

Received by: [Signature] Date: 5/16/17 Time: 1745
 Received by: [Signature] Date: 05/17/17 Time: 0530

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMS (8021)	<input checked="" type="checkbox"/>
BTEX + MTBE + TPH (Gas only)	<input checked="" type="checkbox"/>
TPH 8015B (GRO/DRO/MRO)	<input checked="" type="checkbox"/>
TPH (Method 418.1)	<input type="checkbox"/>
EDB (Method 504.1)	<input type="checkbox"/>
PAH's (8310 or 8270 SIMS)	<input type="checkbox"/>
RCRA 8 Metals	<input type="checkbox"/>
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	<input type="checkbox"/>
8081 Pesticides / 8082 PCB's	<input type="checkbox"/>
8260B (VOA)	<input type="checkbox"/>
8270 (Semi-VOA)	<input type="checkbox"/>
Air Bubbles (Y or N)	<input type="checkbox"/>

Remarks: MW-12 & SB10 (24 hr TAT) per Danny
 5/16/17



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 22, 2017

Ashley Ager

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1705935

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/18/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705935

Date Reported: 5/22/2017

CLIENT: Williams Four Corners

Client Sample ID: SB13 @ 7.5-10'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 4:50:00 PM

Lab ID: 1705935-001

Matrix: MEOH (SOIL)

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/18/2017 10:15:26 AM	31809
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/18/2017 10:15:26 AM	31809
Surr: DNOP	90.3	70-130		%Rec	1	5/18/2017 10:15:26 AM	31809
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	21		mg/Kg	5	5/18/2017 10:27:30 AM	31781
Surr: BFB	99.2	54-150		%Rec	5	5/18/2017 10:27:30 AM	31781
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	5/18/2017 10:27:30 AM	31781
Toluene	ND	0.21		mg/Kg	5	5/18/2017 10:27:30 AM	31781
Ethylbenzene	ND	0.21		mg/Kg	5	5/18/2017 10:27:30 AM	31781
Xylenes, Total	ND	0.42		mg/Kg	5	5/18/2017 10:27:30 AM	31781
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	5	5/18/2017 10:27:30 AM	31781

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705935

Date Reported: 5/22/2017

CLIENT: Williams Four Corners

Client Sample ID: SB13 @ 25-27.5'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 5:00:00 PM

Lab ID: 1705935-002

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: MAB
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/18/2017 10:42:56 AM	31809
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/18/2017 10:42:56 AM	31809
Surr: DNOP	93.2	70-130		%Rec	1	5/18/2017 10:42:56 AM	31809
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 11:26:21 AM	31812
Surr: BFB	96.0	54-150		%Rec	1	5/19/2017 11:26:21 AM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/19/2017 11:26:21 AM	31812
Toluene	ND	0.047		mg/Kg	1	5/19/2017 11:26:21 AM	31812
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 11:26:21 AM	31812
Xylenes, Total	ND	0.094		mg/Kg	1	5/19/2017 11:26:21 AM	31812
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	5/19/2017 11:26:21 AM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705935

22-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-31809		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31809		RunNo: 42876					
Prep Date:	5/18/2017		Analysis Date: 5/18/2017		SeqNo: 1349092		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.5	73.2	114			
Surr: DNOP	4.6		5.000		91.5	70	130			

Sample ID	MB-31809		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31809		RunNo: 42876					
Prep Date:	5/18/2017		Analysis Date: 5/18/2017		SeqNo: 1349093		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.7	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705935

22-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31781		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349815		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		94.7	54	150			

Sample ID	LCS-31781		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349816		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	76.4	125			
Surr: BFB	1100		1000		106	54	150			

Sample ID	MB-31812		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351043		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.9	54	150			

Sample ID	LCS-31812		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351044		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.5	76.4	125			
Surr: BFB	1100		1000		105	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705935

22-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31781		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349834		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	66.6	132			

Sample ID	LCS-31781		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31781		RunNo: 42889					
Prep Date:	5/17/2017		Analysis Date: 5/18/2017		SeqNo: 1349835		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.2	80	120			
Toluene	1.0	0.050	1.000	0	99.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	66.6	132			

Sample ID	MB-31812		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351066		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	66.6	132			

Sample ID	LCS-31812		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351067		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.0	80	120			
Toluene	1.0	0.050	1.000	0	99.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705935

22-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1705935-002AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID:	SB13 @ 25-27.5'	Batch ID: 31812		RunNo: 42919						
Prep Date:	5/18/2017	Analysis Date: 5/19/2017		SeqNo: 1351068		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9960	0.01337	106	61.5	138			
Toluene	1.1	0.050	0.9960	0.01073	110	71.4	127			
Ethylbenzene	1.1	0.050	0.9960	0	113	70.9	132			
Xylenes, Total	3.5	0.10	2.988	0.02928	115	76.2	123			
Surr: 4-Bromofluorobenzene	1.1		0.9960		107	66.6	132			

Sample ID	1705935-002AMSD	SampType:	MSD	TestCode: EPA Method 8021B: Volatiles						
Client ID:	SB13 @ 25-27.5'	Batch ID:	31812	RunNo: 42919						
Prep Date:	5/18/2017	Analysis Date:	5/19/2017	SeqNo:	1351069	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9434	0.01337	109	61.5	138	2.22	20	
Toluene	1.1	0.047	0.9434	0.01073	114	71.4	127	2.10	20	
Ethylbenzene	1.1	0.047	0.9434	0	117	70.9	132	2.06	20	
Xylenes, Total	3.4	0.094	2.830	0.02928	119	76.2	123	2.00	20	
Surr: 4-Bromofluorobenzene	1.0		0.9434		109	66.6	132	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705935

RcptNo: 1

Received By: Ashley Gallegos

5/18/2017 6:45:00 AM

[Signature]

Completed By: Ashley Gallegos

5/18/2017 7:13:17 AM

[Signature]

Reviewed By:

[Signature]

5/18/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels? Yes ☒ No ☐
- (Note discrepancies on chain of custody)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met? Yes ☒ No ☐
- (If no, notify customer for authorization.)
- # of preserved bottles checked for pH: _____
- (<2 or >12 unless noted)
- Adjusted? _____
- Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.5	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 23, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1705952

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 11 sample(s) on 5/18/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB11 @ 25-28'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 11:20:00 AM

Lab ID: 1705952-001

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	41	9.1		mg/Kg	1	5/19/2017 2:37:16 PM	31814
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/19/2017 2:37:16 PM	31814
Surr: DNOP	103	70-130		%Rec	1	5/19/2017 2:37:16 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	100	9.4		mg/Kg	2	5/19/2017 12:38:19 PM	31812
Surr: BFB	272	54-150	S	%Rec	2	5/19/2017 12:38:19 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	2	5/19/2017 12:38:19 PM	31812
Toluene	0.40	0.094		mg/Kg	2	5/19/2017 12:38:19 PM	31812
Ethylbenzene	0.29	0.094		mg/Kg	2	5/19/2017 12:38:19 PM	31812
Xylenes, Total	2.8	0.19		mg/Kg	2	5/19/2017 12:38:19 PM	31812
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	2	5/19/2017 12:38:19 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1705952**

Date Reported: **5/23/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB11 @ 28-31.5'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 11:25:00 AM

Lab ID: 1705952-002

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	53	9.5		mg/Kg	1	5/19/2017 2:59:12 PM	31814
Motor Oil Range Organics (MRO)	73	48		mg/Kg	1	5/19/2017 2:59:12 PM	31814
Surr: DNOP	104	70-130		%Rec	1	5/19/2017 2:59:12 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	200	24		mg/Kg	5	5/19/2017 10:01:02 AM	31812
Surr: BFB	203	54-150	S	%Rec	5	5/19/2017 10:01:02 AM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/19/2017 10:01:02 AM	31812
Toluene	1.5	0.24		mg/Kg	5	5/19/2017 10:01:02 AM	31812
Ethylbenzene	0.66	0.24		mg/Kg	5	5/19/2017 10:01:02 AM	31812
Xylenes, Total	6.8	0.47		mg/Kg	5	5/19/2017 10:01:02 AM	31812
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	5	5/19/2017 10:01:02 AM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB11 @ 35-37'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 11:30:00 AM

Lab ID: 1705952-003

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/19/2017 3:21:22 PM	31814
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2017 3:21:22 PM	31814
Surr: DNOP	90.1	70-130		%Rec	1	5/19/2017 3:21:22 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/19/2017 2:14:26 PM	31812
Surr: BFB	95.6	54-150		%Rec	1	5/19/2017 2:14:26 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	5/19/2017 2:14:26 PM	31812
Toluene	ND	0.050		mg/Kg	1	5/19/2017 2:14:26 PM	31812
Ethylbenzene	ND	0.050		mg/Kg	1	5/19/2017 2:14:26 PM	31812
Xylenes, Total	ND	0.099		mg/Kg	1	5/19/2017 2:14:26 PM	31812
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	5/19/2017 2:14:26 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 17.5-20'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:20:00 PM

Lab ID: 1705952-004

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	290	9.6		mg/Kg	1	5/22/2017 9:43:32 PM	31814
Motor Oil Range Organics (MRO)	60	48		mg/Kg	1	5/22/2017 9:43:32 PM	31814
Surr: DNOP	110	70-130		%Rec	1	5/22/2017 9:43:32 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	350	24		mg/Kg	5	5/19/2017 2:38:36 PM	31812
Surr: BFB	357	54-150	S	%Rec	5	5/19/2017 2:38:36 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.13	0.12		mg/Kg	5	5/19/2017 2:38:36 PM	31812
Toluene	3.7	0.24		mg/Kg	5	5/19/2017 2:38:36 PM	31812
Ethylbenzene	1.7	0.24		mg/Kg	5	5/19/2017 2:38:36 PM	31812
Xylenes, Total	18	0.47		mg/Kg	5	5/19/2017 2:38:36 PM	31812
Surr: 4-Bromofluorobenzene	117	66.6-132		%Rec	5	5/19/2017 2:38:36 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 20-22.5'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:25:00 PM

Lab ID: 1705952-005

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	52	9.7		mg/Kg	1	5/19/2017 4:05:32 PM	31814
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/19/2017 4:05:32 PM	31814
Surr: DNOP	100	70-130		%Rec	1	5/19/2017 4:05:32 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	18	4.8		mg/Kg	1	5/19/2017 3:26:57 PM	31812
Surr: BFB	191	54-150	S	%Rec	1	5/19/2017 3:26:57 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/19/2017 3:26:57 PM	31812
Toluene	0.065	0.048		mg/Kg	1	5/19/2017 3:26:57 PM	31812
Ethylbenzene	0.056	0.048		mg/Kg	1	5/19/2017 3:26:57 PM	31812
Xylenes, Total	0.44	0.095		mg/Kg	1	5/19/2017 3:26:57 PM	31812
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	5/19/2017 3:26:57 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 22.5-25'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:30:00 PM

Lab ID: 1705952-006

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/19/2017 4:27:37 PM	31814
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/19/2017 4:27:37 PM	31814
Surr: DNOP	96.9	70-130		%Rec	1	5/19/2017 4:27:37 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/19/2017 3:51:10 PM	31812
Surr: BFB	92.4	54-150		%Rec	1	5/19/2017 3:51:10 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	5/19/2017 3:51:10 PM	31812
Toluene	ND	0.047		mg/Kg	1	5/19/2017 3:51:10 PM	31812
Ethylbenzene	ND	0.047		mg/Kg	1	5/19/2017 3:51:10 PM	31812
Xylenes, Total	ND	0.094		mg/Kg	1	5/19/2017 3:51:10 PM	31812
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	1	5/19/2017 3:51:10 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 25-27.5'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:35:00 PM

Lab ID: 1705952-007

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	610	9.2		mg/Kg	1	5/19/2017 4:49:54 PM	31814
Motor Oil Range Organics (MRO)	130	46		mg/Kg	1	5/19/2017 4:49:54 PM	31814
Surr: DNOP	116	70-130		%Rec	1	5/19/2017 4:49:54 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1100	98		mg/Kg	20	5/19/2017 5:51:44 PM	31812
Surr: BFB	379	54-150	S	%Rec	20	5/19/2017 5:51:44 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.49		mg/Kg	20	5/19/2017 5:51:44 PM	31812
Toluene	4.2	0.98		mg/Kg	20	5/19/2017 5:51:44 PM	31812
Ethylbenzene	3.1	0.98		mg/Kg	20	5/19/2017 5:51:44 PM	31812
Xylenes, Total	26	2.0		mg/Kg	20	5/19/2017 5:51:44 PM	31812
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	20	5/19/2017 5:51:44 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 27.5-30'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:40:00 PM

Lab ID: 1705952-008

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	720	19		mg/Kg	2	5/22/2017 10:27:44 PM	31814
Motor Oil Range Organics (MRO)	150	97		mg/Kg	2	5/22/2017 10:27:44 PM	31814
Surr: DNOP	116	70-130		%Rec	2	5/22/2017 10:27:44 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	410	23		mg/Kg	5	5/19/2017 6:15:35 PM	31812
Surr: BFB	739	54-150	S	%Rec	5	5/19/2017 6:15:35 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/19/2017 6:15:35 PM	31812
Toluene	0.55	0.23		mg/Kg	5	5/19/2017 6:15:35 PM	31812
Ethylbenzene	1.2	0.23		mg/Kg	5	5/19/2017 6:15:35 PM	31812
Xylenes, Total	7.7	0.47		mg/Kg	5	5/19/2017 6:15:35 PM	31812
Surr: 4-Bromofluorobenzene	128	66.6-132		%Rec	5	5/19/2017 6:15:35 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 30-32'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:45:00 PM

Lab ID: 1705952-009

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	13	10		mg/Kg	1	5/19/2017 5:34:26 PM	31814
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/19/2017 5:34:26 PM	31814
Surr: DNOP	96.9	70-130		%Rec	1	5/19/2017 5:34:26 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/19/2017 7:03:24 PM	31812
Surr: BFB	100	54-150		%Rec	1	5/19/2017 7:03:24 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/19/2017 7:03:24 PM	31812
Toluene	ND	0.048		mg/Kg	1	5/19/2017 7:03:24 PM	31812
Ethylbenzene	ND	0.048		mg/Kg	1	5/19/2017 7:03:24 PM	31812
Xylenes, Total	ND	0.096		mg/Kg	1	5/19/2017 7:03:24 PM	31812
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	1	5/19/2017 7:03:24 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 32-35'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:50:00 PM

Lab ID: 1705952-010

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	92	9.4		mg/Kg	1	5/19/2017 5:56:33 PM	31814
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/19/2017 5:56:33 PM	31814
Surr: DNOP	98.4	70-130		%Rec	1	5/19/2017 5:56:33 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	26	4.7		mg/Kg	1	5/19/2017 7:27:29 PM	31812
Surr: BFB	256	54-150	S	%Rec	1	5/19/2017 7:27:29 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/19/2017 7:27:29 PM	31812
Toluene	ND	0.047		mg/Kg	1	5/19/2017 7:27:29 PM	31812
Ethylbenzene	0.067	0.047		mg/Kg	1	5/19/2017 7:27:29 PM	31812
Xylenes, Total	0.26	0.095		mg/Kg	1	5/19/2017 7:27:29 PM	31812
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	5/19/2017 7:27:29 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705952

Date Reported: 5/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB12 @ 38-40'

Project: Florance GCJ 16A

Collection Date: 5/17/2017 2:55:00 PM

Lab ID: 1705952-011

Matrix: SOIL

Received Date: 5/18/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/19/2017 6:18:48 PM	31814
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/19/2017 6:18:48 PM	31814
Surr: DNOP	95.2	70-130		%Rec	1	5/19/2017 6:18:48 PM	31814
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/19/2017 7:51:34 PM	31812
Surr: BFB	92.7	54-150		%Rec	1	5/19/2017 7:51:34 PM	31812
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	5/19/2017 7:51:34 PM	31812
Toluene	ND	0.049		mg/Kg	1	5/19/2017 7:51:34 PM	31812
Ethylbenzene	ND	0.049		mg/Kg	1	5/19/2017 7:51:34 PM	31812
Xylenes, Total	ND	0.098		mg/Kg	1	5/19/2017 7:51:34 PM	31812
Surr: 4-Bromofluorobenzene	107	66.6-132		%Rec	1	5/19/2017 7:51:34 PM	31812

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705952

23-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-31814		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31814		RunNo: 42914					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351129		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.5	73.2	114			
Surr: DNOP	4.7		5.000		93.3	70	130			

Sample ID	MB-31814		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31814		RunNo: 42914					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351130		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		97.0	70	130			

Sample ID	LCS-31865		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31865		RunNo: 42945					
Prep Date:	5/22/2017		Analysis Date: 5/22/2017		SeqNo: 1351371		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.8	70	130			

Sample ID	MB-31865		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31865		RunNo: 42945					
Prep Date:	5/22/2017		Analysis Date: 5/22/2017		SeqNo: 1351372		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		97.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705952

23-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31812		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351043		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.9	54	150			

Sample ID	LCS-31812		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351044		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.5	76.4	125			
Surr: BFB	1100		1000		105	54	150			

Sample ID	1705952-001AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	SB11 @ 25-28'		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351047		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	130	9.6	24.11	102.9	110	61.3	150			
Surr: BFB	5300		1929		275	54	150			S

Sample ID	1705952-001AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	SB11 @ 25-28'		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351048		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	130	9.5	23.70	102.9	108	61.3	150	0.669	20	
Surr: BFB	5200		1896		276	54	150	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705952

23-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31812		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351066		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	66.6	132			

Sample ID	LCS-31812		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31812		RunNo: 42919					
Prep Date:	5/18/2017		Analysis Date: 5/19/2017		SeqNo: 1351067		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.0	80	120			
Toluene	1.0	0.050	1.000	0	99.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705952

RcptNo: 1

Received By: Ashley Gallegos 5/18/2017 6:45:00 AM

Completed By: Ashley Gallegos 5/18/2017 8:28:08 AM

Reviewed By: *aj* 5/18/17

aj

aj

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.5	Good	Yes			

Chain-of-Custody Record				Turn-Around Time:		
Client: <u>Williams Four Corners</u>				<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush		
Mailing Address: <u>Aaron Galer / Matt Webre</u>				Project Name: <u>Florence GCJ #16A</u>		
Bloomfield, NM 87413				Project #:		
Phone #: <u>505-632-4442</u>						
email or Fax#: <u>aaron.galer@williams.com</u>						
QA/QC Package:						
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)						
Accreditation						
<input type="checkbox"/> NELAP <input type="checkbox"/> Other						
AEDD (Type) <u>PDF</u>				Sample Temperature: <u>4.0-05(CF)=35</u>		
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
5-17-17	11:20	S	SB11@25-28'	1-40z.	cool	1705952
	11:25		SB11@28-31.5'			-001
	11:30		SB11@35-37'			-002
	14:20		SB12@17.5-20'			-003
	14:25		SB12@20-22.5'			-004
	14:30		SB12@22.5-25'			-005
	14:35		SB12@25-27.5'			-006
	14:40		SB12@27.5-30'			-007
	14:45		SB12@30-32'			-008
	14:50		SB12@32-35'			-009
	14:55		SB12@38-40'			-010
						-011
Relinquished by: <u>[Signature]</u>				Receiver by: <u>[Signature]</u>	Date: <u>5/17/17</u>	Time: <u>1841</u>
Date: <u>5/17/17</u>	Time: <u>1841</u>	Relinquished by: <u>[Signature]</u>		Date: <u>05/18/17</u>	Time: <u>17</u>	

Turn-Around Time:			
<input checked="" type="checkbox"/> Standard		<input type="checkbox"/> Rush	
Project Name: Florence GCJ #16A			
Project #:			
Project Manager: Williams - A. Galer			
LTE - D. Burns			
Sampler: Danny Burns			
On Ice: <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Sample Temperature: 4.0-05 (CF) = 35			
Container Type and #	Preservative Type	HEAL No.	
1-4oz.	cool	-001	1705952
		-002	
		-003	
		-004	
		-005	
		-006	
		-007	
		-008	
		-009	
		-010	
		-011	
Receiver by: John Wab		Date	Time
		5/16	1841
Received by: John Wab		Date	Time
		05/18/17	

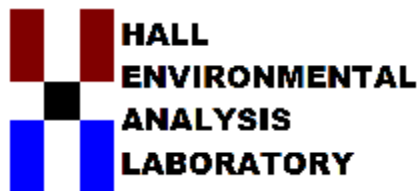
Analysis Request

[illegible]

Remarks:
cc: aager@itenv.com
dburns@itenv.com

05/18/17
Anthony J. Valenzano 200645

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 02, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1705A78

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/19/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued May 25, 2017.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1705A78**

Date Reported: **6/2/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB14 @ 5-7.5'

Project: Florance GCJ 16A

Collection Date: 5/18/2017 11:00:00 AM

Lab ID: 1705A78-001

Matrix: AQUEOUS

Received Date: 5/19/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	280	9.5		mg/Kg	1	5/23/2017 9:14:59 PM	31889
Motor Oil Range Organics (MRO)	54	47		mg/Kg	1	5/23/2017 9:14:59 PM	31889
Surr: DNOP	102	70-130		%Rec	1	5/23/2017 9:14:59 PM	31889
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	28	9.7		mg/Kg	2	5/22/2017 7:10:38 PM	31844
Surr: BFB	321	54-150	S	%Rec	2	5/22/2017 7:10:38 PM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	2	5/22/2017 7:10:38 PM	31844
Toluene	ND	0.097		mg/Kg	2	5/22/2017 7:10:38 PM	31844
Ethylbenzene	ND	0.097		mg/Kg	2	5/22/2017 7:10:38 PM	31844
Xylenes, Total	ND	0.19		mg/Kg	2	5/22/2017 7:10:38 PM	31844
Surr: 4-Bromofluorobenzene	124	66.6-132		%Rec	2	5/22/2017 7:10:38 PM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705A78

Date Reported: 6/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB14 @ 37.5-40'

Project: Florance GCJ 16A

Collection Date: 5/18/2017 11:15:00 AM

Lab ID: 1705A78-002

Matrix: AQUEOUS

Received Date: 5/19/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/23/2017 10:21:25 PM	31889
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/23/2017 10:21:25 PM	31889
Surr: DNOP	88.8	70-130		%Rec	1	5/23/2017 10:21:25 PM	31889
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/22/2017 7:58:19 PM	31844
Surr: BFB	95.5	54-150		%Rec	1	5/22/2017 7:58:19 PM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	5/22/2017 7:58:19 PM	31844
Toluene	ND	0.047		mg/Kg	1	5/22/2017 7:58:19 PM	31844
Ethylbenzene	ND	0.047		mg/Kg	1	5/22/2017 7:58:19 PM	31844
Xylenes, Total	ND	0.094		mg/Kg	1	5/22/2017 7:58:19 PM	31844
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	5/22/2017 7:58:19 PM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1705A78**

Date Reported: **6/2/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB15 @ 22.5-25'

Project: Florance GCJ 16A

Collection Date: 5/18/2017 2:20:00 PM

Lab ID: 1705A78-003

Matrix: AQUEOUS

Received Date: 5/19/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/23/2017 10:43:38 PM	31889
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/23/2017 10:43:38 PM	31889
Surr: DNOP	92.0	70-130		%Rec	1	5/23/2017 10:43:38 PM	31889
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2017 8:22:11 PM	31844
Surr: BFB	91.8	54-150		%Rec	1	5/22/2017 8:22:11 PM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/22/2017 8:22:11 PM	31844
Toluene	ND	0.048		mg/Kg	1	5/22/2017 8:22:11 PM	31844
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2017 8:22:11 PM	31844
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2017 8:22:11 PM	31844
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	5/22/2017 8:22:11 PM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1705A78**

Date Reported: **6/2/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB16 @ 22.5-25'

Project: Florance GCJ 16A

Collection Date: 5/18/2017 4:00:00 PM

Lab ID: 1705A78-004

Matrix: AQUEOUS

Received Date: 5/19/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/23/2017 11:05:48 PM	31889
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/23/2017 11:05:48 PM	31889
Surr: DNOP	91.1	70-130		%Rec	1	5/23/2017 11:05:48 PM	31889
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/22/2017 8:46:00 PM	31844
Surr: BFB	93.8	54-150		%Rec	1	5/22/2017 8:46:00 PM	31844
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	5/22/2017 8:46:00 PM	31844
Toluene	ND	0.046		mg/Kg	1	5/22/2017 8:46:00 PM	31844
Ethylbenzene	ND	0.046		mg/Kg	1	5/22/2017 8:46:00 PM	31844
Xylenes, Total	ND	0.092		mg/Kg	1	5/22/2017 8:46:00 PM	31844
Surr: 4-Bromofluorobenzene	111	66.6-132		%Rec	1	5/22/2017 8:46:00 PM	31844

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705A78

02-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1705A78-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SB14 @ 5-7.5'	Batch ID:	31889	RunNo:	42983					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1353502	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	340	9.9	49.60	281.9	121	55.8	122			
Surr: DNOP	5.2		4.960		105	70	130			

Sample ID	1705A78-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SB14 @ 5-7.5'	Batch ID:	31889	RunNo:	42983					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1353503	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	360	9.6	47.85	281.9	155	55.8	122	4.03	20	S
Surr: DNOP	5.3		4.785		110	70	130	0	0	

Sample ID	LCS-31889	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	31889	RunNo:	42983					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1353523	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.9	73.2	114			
Surr: DNOP	4.6		5.000		91.3	70	130			

Sample ID	MB-31889	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	31889	RunNo:	42983					
Prep Date:	5/22/2017	Analysis Date:	5/23/2017	SeqNo:	1353524	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705A78

02-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31844		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352236		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.4	54	150			

Sample ID	LCS-31844		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352237		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.1	76.4	125			
Surr: BFB	1000		1000		103	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705A78

02-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31844		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352252		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

Sample ID	LCS-31844		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31844		RunNo: 42956					
Prep Date:	5/19/2017		Analysis Date: 5/22/2017		SeqNo: 1352253		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705A78

RcptNo: 1

Received By: Anne Thorne

5/19/2017 7:15:00 AM

Anne Thorne

Completed By: Ashley Gallegos

5/19/2017 12:43:04 PM

Ashley Gallegos

Reviewed By:

[Signature]

5/19/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? _____
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date

By Whom:

Via:

☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

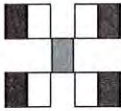
Chain-of-Custody Record

Client: Williams Four Corners
 Aaron Galer / Matt Webber
 Mailing Address: 17755 Arroyo Dr.
Bloomfield NM 87413
 Phone #: 505-632-4442
 email or Fax#: aaron-galer@williams.com
 QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other _____
☒ EDD (Type) _____

Turn-Around Time: ☒ Standard ☐ Rush
 Project Name: Flourace GCJ #16A
 Project #: _____
 Project Manager: Williams- A. Galer
LTE- D. Burns
 Sampler: Danny Burns
 On Ice: ☒ Yes ☐ No
 Sample Temperature: 1.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
5-18-17	11:00	S	SB14@5-7.5'	1-402	cool	1705A78
↓	11:15	↓	SB14@37.5-40'	mg 04/02/17	↓	-001
↓	14:20	↓	SB15@22.5-25'	27.5-30	↓	-002
↓	16:00	↓	SB16@22.5-25'	27.5-30	↓	-003
						-004

Relinquished by: DRB Date: 5-18-17 Time: 17:05
 Relinquished by: DRB Date: 5-18-17 Time: 18:44



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: cc: aager@henvr.com
dburns@henvr.com
For -003:
Per Ashley Ager
Sample name:
SB15@22.5-25'
Should be:
SB15@22.5-25'



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 30, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1705C83

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/24/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705C83

Date Reported: 5/30/2017

CLIENT: Williams Four Corners

Client Sample ID: SB 20 @ 0-5'

Project: Florance GCJ 16A

Collection Date: 5/22/2017 2:20:00 PM

Lab ID: 1705C83-001

Matrix: SOIL

Received Date: 5/24/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/26/2017 3:13:33 PM	31966
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/26/2017 3:13:33 PM	31966
Surr: DNOP	86.3	70-130		%Rec	1	5/26/2017 3:13:33 PM	31966
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/27/2017 12:58:36 AM	31961
Surr: BFB	96.3	54-150		%Rec	1	5/27/2017 12:58:36 AM	31961
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/27/2017 12:58:36 AM	31961
Toluene	ND	0.049		mg/Kg	1	5/27/2017 12:58:36 AM	31961
Ethylbenzene	ND	0.049		mg/Kg	1	5/27/2017 12:58:36 AM	31961
Xylenes, Total	ND	0.097		mg/Kg	1	5/27/2017 12:58:36 AM	31961
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	5/27/2017 12:58:36 AM	31961

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705C83

Date Reported: 5/30/2017

CLIENT: Williams Four Corners

Client Sample ID: SB 20 @ 35-37.5'

Project: Florance GCJ 16A

Collection Date: 5/22/2017 2:30:00 PM

Lab ID: 1705C83-002

Matrix: SOIL

Received Date: 5/24/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/26/2017 3:35:57 PM	31966
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/26/2017 3:35:57 PM	31966
Surr: DNOP	81.2	70-130		%Rec	1	5/26/2017 3:35:57 PM	31966
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/27/2017 1:22:30 AM	31961
Surr: BFB	101	54-150		%Rec	1	5/27/2017 1:22:30 AM	31961
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/27/2017 1:22:30 AM	31961
Toluene	ND	0.047		mg/Kg	1	5/27/2017 1:22:30 AM	31961
Ethylbenzene	ND	0.047		mg/Kg	1	5/27/2017 1:22:30 AM	31961
Xylenes, Total	ND	0.094		mg/Kg	1	5/27/2017 1:22:30 AM	31961
Surr: 4-Bromofluorobenzene	119	66.6-132		%Rec	1	5/27/2017 1:22:30 AM	31961

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705C83

Date Reported: 5/30/2017

CLIENT: Williams Four Corners

Client Sample ID: SB 21 @ 0-5'

Project: Florance GCJ 16A

Collection Date: 5/22/2017 4:00:00 PM

Lab ID: 1705C83-003

Matrix: SOIL

Received Date: 5/24/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/26/2017 3:58:20 PM	31966
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/26/2017 3:58:20 PM	31966
Surr: DNOP	88.8	70-130		%Rec	1	5/26/2017 3:58:20 PM	31966
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/27/2017 1:46:33 AM	31961
Surr: BFB	103	54-150		%Rec	1	5/27/2017 1:46:33 AM	31961
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	5/27/2017 1:46:33 AM	31961
Toluene	ND	0.049		mg/Kg	1	5/27/2017 1:46:33 AM	31961
Ethylbenzene	ND	0.049		mg/Kg	1	5/27/2017 1:46:33 AM	31961
Xylenes, Total	ND	0.098		mg/Kg	1	5/27/2017 1:46:33 AM	31961
Surr: 4-Bromofluorobenzene	122	66.6-132		%Rec	1	5/27/2017 1:46:33 AM	31961

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705C83

Date Reported: 5/30/2017

CLIENT: Williams Four Corners

Client Sample ID: SB 21 @ 15-20'

Project: Florance GCJ 16A

Collection Date: 5/22/2017 4:05:00 PM

Lab ID: 1705C83-004

Matrix: SOIL

Received Date: 5/24/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/26/2017 4:21:06 PM	31966
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/26/2017 4:21:06 PM	31966
Surr: DNOP	87.7	70-130		%Rec	1	5/26/2017 4:21:06 PM	31966
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/27/2017 2:10:42 AM	31961
Surr: BFB	98.2	54-150		%Rec	1	5/27/2017 2:10:42 AM	31961
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/27/2017 2:10:42 AM	31961
Toluene	ND	0.047		mg/Kg	1	5/27/2017 2:10:42 AM	31961
Ethylbenzene	ND	0.047		mg/Kg	1	5/27/2017 2:10:42 AM	31961
Xylenes, Total	ND	0.094		mg/Kg	1	5/27/2017 2:10:42 AM	31961
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	1	5/27/2017 2:10:42 AM	31961

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705C83

30-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-31966		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31966		RunNo: 43088					
Prep Date:	5/25/2017		Analysis Date: 5/26/2017		SeqNo: 1356611		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.4	70	130			

Sample ID	LCS-31966		SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	31966		RunNo:	43088				
Prep Date:	5/25/2017		Analysis Date:	5/26/2017		SeqNo:	1356913		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	40	10	50.00	0	80.2	73.2	114				
Surr: DNOP	4.0		5.000		80.9	70	130				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705C83

30-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-31961		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31961		RunNo: 43104					
Prep Date:	5/25/2017		Analysis Date: 5/26/2017		SeqNo: 1356844		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	76.4	125			
Surr: BFB	1100		1000		114	54	150			

Sample ID	MB-31961		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31961		RunNo: 43104					
Prep Date:	5/25/2017		Analysis Date: 5/26/2017		SeqNo: 1356845		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	54	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705C83

30-May-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-31961		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31961		RunNo: 43104					
Prep Date:	5/25/2017		Analysis Date: 5/26/2017		SeqNo: 1356872		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		125	66.6	132			

Sample ID	MB-31961		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 31961		RunNo: 43104					
Prep Date:	5/25/2017		Analysis Date: 5/26/2017		SeqNo: 1356873		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		117	66.6	132			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1705C83

RcptNo: 1

Received By: Ashley Gallegos 5/24/2017 7:15:00 AM

Completed By: Ashley Gallegos 5/25/2017 8:12:52 AM

Reviewed By: SRE 05/25/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 23, 2017

Aaron Galer
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL:
FAX

RE: Florance GC J 16A

OrderNo.: 1706973

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 6 sample(s) on 6/17/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706973

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-9

Project: Florance GC J 16A

Collection Date: 6/15/2017 10:35:00 AM

Lab ID: 1706973-001

Matrix: AQUEOUS

Received Date: 6/17/2017 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	370	10	*	mg/L	20	6/22/2017 11:52:05 PM	A43747
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/23/2017 2:58:15 AM	A43747
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	357.8	20.00		mg/L CaCO3	1	6/20/2017 5:44:06 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 5:44:06 PM	R43705
Total Alkalinity (as CaCO3)	357.8	20.00		mg/L CaCO3	1	6/20/2017 5:44:06 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.5	0.010	*	mg/L	5	6/20/2017 4:44:27 PM	A43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.47	0.050		mg/L	1	6/22/2017 12:36:07 PM	R43734
Surr: BFB	92.0	70-130		%Rec	1	6/22/2017 12:36:07 PM	R43734
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/20/2017 9:06:23 PM	32351
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/20/2017 9:06:23 PM	32351
Surr: DNOP	131	72.4-157		%Rec	1	6/20/2017 9:06:23 PM	32351
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	28	1.0		µg/L	1	6/22/2017 12:36:07 PM	A43734
Toluene	46	1.0		µg/L	1	6/22/2017 12:36:07 PM	A43734
Ethylbenzene	4.3	1.0		µg/L	1	6/22/2017 12:36:07 PM	A43734
Xylenes, Total	42	1.5		µg/L	1	6/22/2017 12:36:07 PM	A43734
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	6/22/2017 12:36:07 PM	A43734
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	6/22/2017 12:36:07 PM	A43734
Surr: Dibromofluoromethane	96.2	70-130		%Rec	1	6/22/2017 12:36:07 PM	A43734
Surr: Toluene-d8	105	70-130		%Rec	1	6/22/2017 12:36:07 PM	A43734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706973

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-4

Project: Florance GC J 16A

Collection Date: 6/15/2017 11:20:00 AM

Lab ID: 1706973-002

Matrix: AQUEOUS

Received Date: 6/17/2017 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	290	10	*	mg/L	20	6/23/2017 12:41:44 AM	A43747
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/23/2017 3:10:40 AM	A43747
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	523.4	20.00		mg/L CaCO3	1	6/20/2017 5:59:53 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 5:59:53 PM	R43705
Total Alkalinity (as CaCO3)	523.4	20.00		mg/L CaCO3	1	6/20/2017 5:59:53 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.51	0.0020	*	mg/L	1	6/19/2017 5:32:48 PM	A43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.11	0.050		mg/L	1	6/22/2017 1:05:40 PM	R43734
Surr: BFB	91.9	70-130		%Rec	1	6/22/2017 1:05:40 PM	R43734
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/20/2017 9:28:45 PM	32351
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/20/2017 9:28:45 PM	32351
Surr: DNOP	132	72.4-157		%Rec	1	6/20/2017 9:28:45 PM	32351
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	6.6	1.0		µg/L	1	6/22/2017 1:05:40 PM	A43734
Toluene	9.5	1.0		µg/L	1	6/22/2017 1:05:40 PM	A43734
Ethylbenzene	ND	1.0		µg/L	1	6/22/2017 1:05:40 PM	A43734
Xylenes, Total	8.7	1.5		µg/L	1	6/22/2017 1:05:40 PM	A43734
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	6/22/2017 1:05:40 PM	A43734
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	6/22/2017 1:05:40 PM	A43734
Surr: Dibromofluoromethane	103	70-130		%Rec	1	6/22/2017 1:05:40 PM	A43734
Surr: Toluene-d8	99.1	70-130		%Rec	1	6/22/2017 1:05:40 PM	A43734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706973

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-8

Project: Florance GC J 16A

Collection Date: 6/15/2017 12:15:00 PM

Lab ID: 1706973-003

Matrix: AQUEOUS

Received Date: 6/17/2017 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	14	0.50		mg/L	1	6/23/2017 12:54:09 AM	A43747
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/23/2017 3:23:05 AM	A43747
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	383.4	20.00		mg/L CaCO3	1	6/20/2017 6:20:47 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 6:20:47 PM	R43705
Total Alkalinity (as CaCO3)	383.4	20.00		mg/L CaCO3	1	6/20/2017 6:20:47 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.73	0.0020	*	mg/L	1	6/19/2017 5:36:44 PM	A43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.30	0.050		mg/L	1	6/22/2017 1:35:37 PM	R43734
Surr: BFB	94.1	70-130		%Rec	1	6/22/2017 1:35:37 PM	R43734
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/20/2017 9:51:12 PM	32351
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/20/2017 9:51:12 PM	32351
Surr: DNOP	131	72.4-157		%Rec	1	6/20/2017 9:51:12 PM	32351
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	5.1	1.0		µg/L	1	6/22/2017 1:35:37 PM	A43734
Toluene	4.3	1.0		µg/L	1	6/22/2017 1:35:37 PM	A43734
Ethylbenzene	2.6	1.0		µg/L	1	6/22/2017 1:35:37 PM	A43734
Xylenes, Total	6.4	1.5		µg/L	1	6/22/2017 1:35:37 PM	A43734
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	6/22/2017 1:35:37 PM	A43734
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	6/22/2017 1:35:37 PM	A43734
Surr: Dibromofluoromethane	106	70-130		%Rec	1	6/22/2017 1:35:37 PM	A43734
Surr: Toluene-d8	101	70-130		%Rec	1	6/22/2017 1:35:37 PM	A43734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1706973**

Date Reported: **6/23/2017**

CLIENT: Williams Four Corners

Client Sample ID: MW-6

Project: Florance GC J 16A

Collection Date: 6/15/2017 1:15:00 PM

Lab ID: 1706973-004

Matrix: AQUEOUS

Received Date: 6/17/2017 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	15	0.50		mg/L	1	6/23/2017 1:18:58 AM	A43747
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/23/2017 3:35:30 AM	A43747
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	306.0	20.00		mg/L CaCO3	1	6/20/2017 6:36:59 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 6:36:59 PM	R43705
Total Alkalinity (as CaCO3)	306.0	20.00		mg/L CaCO3	1	6/20/2017 6:36:59 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.9	0.020	*	mg/L	10	6/19/2017 5:49:01 PM	A43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.27	0.050		mg/L	1	6/22/2017 2:05:34 PM	R43734
Surr: BFB	91.9	70-130		%Rec	1	6/22/2017 2:05:34 PM	R43734
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/20/2017 10:13:40 PM	32351
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/20/2017 10:13:40 PM	32351
Surr: DNOP	133	72.4-157		%Rec	1	6/20/2017 10:13:40 PM	32351
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	9.5	1.0		µg/L	1	6/22/2017 2:05:34 PM	A43734
Toluene	17	1.0		µg/L	1	6/22/2017 2:05:34 PM	A43734
Ethylbenzene	2.3	1.0		µg/L	1	6/22/2017 2:05:34 PM	A43734
Xylenes, Total	18	1.5		µg/L	1	6/22/2017 2:05:34 PM	A43734
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	6/22/2017 2:05:34 PM	A43734
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	6/22/2017 2:05:34 PM	A43734
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/22/2017 2:05:34 PM	A43734
Surr: Toluene-d8	99.6	70-130		%Rec	1	6/22/2017 2:05:34 PM	A43734

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706973

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB03

Project: Florance GC J 16A

Collection Date: 6/15/2017 2:15:00 PM

Lab ID: 1706973-005

Matrix: AQUEOUS

Received Date: 6/17/2017 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	6/23/2017 1:43:47 AM	A43747
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/23/2017 3:47:54 AM	A43747
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	497.7	20.00		mg/L CaCO3	1	6/20/2017 6:50:53 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 6:50:53 PM	R43705
Total Alkalinity (as CaCO3)	497.7	20.00		mg/L CaCO3	1	6/20/2017 6:50:53 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.3	0.020	*	mg/L	10	6/19/2017 5:52:42 PM	A43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	43	10		mg/L	200	6/21/2017 5:00:22 PM	R43704
Surr: BFB	88.0	70-130		%Rec	200	6/21/2017 5:00:22 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	1.1	1.0		mg/L	1	6/20/2017 10:36:06 PM	32351
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/20/2017 10:36:06 PM	32351
Surr: DNOP	133	72.4-157		%Rec	1	6/20/2017 10:36:06 PM	32351
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	3200	200		µg/L	200	6/21/2017 5:00:22 PM	A43704
Toluene	5000	200		µg/L	200	6/21/2017 5:00:22 PM	A43704
Ethylbenzene	390	200		µg/L	200	6/21/2017 5:00:22 PM	A43704
Xylenes, Total	3800	300		µg/L	200	6/21/2017 5:00:22 PM	A43704
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	200	6/21/2017 5:00:22 PM	A43704
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	200	6/21/2017 5:00:22 PM	A43704
Surr: Dibromofluoromethane	99.9	70-130		%Rec	200	6/21/2017 5:00:22 PM	A43704
Surr: Toluene-d8	96.7	70-130		%Rec	200	6/21/2017 5:00:22 PM	A43704

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706973

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB05

Project: Florance GC J 16A

Collection Date: 6/15/2017 3:45:00 PM

Lab ID: 1706973-006

Matrix: AQUEOUS

Received Date: 6/17/2017 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	6/23/2017 2:08:37 AM	A43747
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/23/2017 4:00:19 AM	A43747
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	447.4	20.00		mg/L CaCO3	1	6/20/2017 7:27:19 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 7:27:19 PM	R43705
Total Alkalinity (as CaCO3)	447.4	20.00		mg/L CaCO3	1	6/20/2017 7:27:19 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.4	0.010	*	mg/L	5	6/20/2017 4:46:27 PM	A43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	100	10		mg/L	200	6/21/2017 6:00:47 PM	R43704
Surr: BFB	94.7	70-130		%Rec	200	6/21/2017 6:00:47 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	21	1.0		mg/L	1	6/20/2017 10:58:32 PM	32351
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/20/2017 10:58:32 PM	32351
Surr: DNOP	132	72.4-157		%Rec	1	6/20/2017 10:58:32 PM	32351
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	16000	200		µg/L	200	6/21/2017 6:00:47 PM	A43704
Toluene	16000	200		µg/L	200	6/21/2017 6:00:47 PM	A43704
Ethylbenzene	310	200		µg/L	200	6/21/2017 6:00:47 PM	A43704
Xylenes, Total	3600	300		µg/L	200	6/21/2017 6:00:47 PM	A43704
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	200	6/21/2017 6:00:47 PM	A43704
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	200	6/21/2017 6:00:47 PM	A43704
Surr: Dibromofluoromethane	98.9	70-130		%Rec	200	6/21/2017 6:00:47 PM	A43704
Surr: Toluene-d8	99.3	70-130		%Rec	200	6/21/2017 6:00:47 PM	A43704

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375737		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LCSLL-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375738		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0020	0.0020	0.002000	0	102	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375739		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: A43747		RunNo: 43747							
Prep Date:	Analysis Date: 6/22/2017		SeqNo: 1377856		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: A43747		RunNo: 43747							
Prep Date:	Analysis Date: 6/22/2017		SeqNo: 1377857		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.3	0.50	10.00	0	92.6	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.2	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	LCS-32351		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 32351		RunNo: 43629					
Prep Date:	6/19/2017		Analysis Date: 6/20/2017		SeqNo: 1375408		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	82.8	146			
Surr: DNOP	0.59		0.5000		118	72.4	157			

Sample ID	MB-32351		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	PBW		Batch ID: 32351		RunNo: 43629					
Prep Date:	6/19/2017		Analysis Date: 6/20/2017		SeqNo: 1375409		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		121	72.4	157			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	A43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376687	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	A43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376688	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	118	70	130			
Toluene	19	1.0	20.00	0	93.3	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	A43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377660	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	A43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377684	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	A43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377684	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	120	70	130			
Toluene	18	1.0	20.00	0	92.3	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.4		10.00		93.7	70	130			

Sample ID	1706973-001ams	SampType:	MS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	MW-9	Batch ID:	A43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377688	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	50	1.0	20.00	27.66	112	70	130			
Toluene	55	1.0	20.00	45.59	44.6	70	130			S
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	12		10.00		117	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID	1706973-001amsd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	MW-9	Batch ID:	A43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377689	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	47	1.0	20.00	27.66	96.0	70	130	6.73	20	
Toluene	51	1.0	20.00	45.59	29.0	70	130	5.91	20	S
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		111	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376523	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.7		10.00		96.9	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	R43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376525	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	75.9	120			
Surr: BFB	9.2		10.00		92.4	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377721	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.1		10.00		90.7	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	R43734	RunNo:	43734					
Prep Date:		Analysis Date:	6/22/2017	SeqNo:	1377722	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.2	75.9	120			
Surr: BFB	9.0		10.00		90.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706973

23-Jun-17

Client: Williams Four Corners

Project: Florance GC J 16A

Sample ID mb-1	SampType: mblk			TestCode: SM2320B: Alkalinity						
Client ID: PBW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376590		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID ics-1	SampType: ics			TestCode: SM2320B: Alkalinity						
Client ID: LCSW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376591		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.00	20.00	80.00	0	97.5	90	110			

Sample ID mb-2	SampType: mblk			TestCode: SM2320B: Alkalinity						
Client ID: PBW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376614		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID ics-2	SampType: ics			TestCode: SM2320B: Alkalinity						
Client ID: LCSW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376615		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.28	20.00	80.00	0	97.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: **WILLIAMS FOUR CORN**

Work Order Number: **1706973**

RcptNo: **1**

Received By: **John Caldwell**

6/17/2017 7:25:00 AM



Completed By: **Andy Jansson**

6/19/2017 8:59:36 AM



Reviewed By: **ENM**
06/19/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: **12**
 (2 or >12 unless noted)
 Adjusted? no
 Checked by: Sne

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:				Date:				
By Whom:				Via:	<input type="checkbox"/> eMail	<input type="checkbox"/> Phone	<input type="checkbox"/> Fax	<input type="checkbox"/> In Person
Regarding:								
Client Instructions:								

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.5	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 23, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1706923

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 7 sample(s) on 6/16/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-10

Project: Florance GCJ 16A

Collection Date: 6/14/2017 10:15:00 AM

Lab ID: 1706923-001

Matrix: AQUEOUS

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	5.0		mg/L	10	6/16/2017 2:52:05 PM	R43601
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 4:31:22 PM	R43601
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	534.6	20.00		mg/L CaCO3	1	6/20/2017 3:30:42 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 3:30:42 PM	R43705
Total Alkalinity (as CaCO3)	534.6	20.00		mg/L CaCO3	1	6/20/2017 3:30:42 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.8	0.020	*	mg/L	10	6/19/2017 3:01:27 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	66	1.0		mg/L	20	6/19/2017 3:05:18 PM	A43623
Surr: BFB	94.0	70-130		%Rec	20	6/19/2017 3:05:18 PM	A43623
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	8.1	1.0		mg/L	1	6/19/2017 6:21:00 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 6:21:00 PM	32334
Surr: DNOP	113	72.4-157		%Rec	1	6/19/2017 6:21:00 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	13000	200		µg/L	200	6/20/2017 1:51:21 PM	R43663
Toluene	8800	200		µg/L	200	6/20/2017 1:51:21 PM	R43663
Ethylbenzene	510	20		µg/L	20	6/19/2017 3:05:18 PM	R43623
Xylenes, Total	2900	30		µg/L	20	6/19/2017 3:05:18 PM	R43623
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	20	6/19/2017 3:05:18 PM	R43623
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	20	6/19/2017 3:05:18 PM	R43623
Surr: Dibromofluoromethane	106	70-130		%Rec	20	6/19/2017 3:05:18 PM	R43623
Surr: Toluene-d8	106	70-130		%Rec	20	6/19/2017 3:05:18 PM	R43623

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-14

Project: Florance GCJ 16A

Collection Date: 6/14/2017 11:10:00 AM

Lab ID: 1706923-002

Matrix: AQUEOUS

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	12	5.0		mg/L	10	6/16/2017 3:16:54 PM	R43601
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 4:43:47 PM	R43601
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	173.0	20.00		mg/L CaCO3	1	6/20/2017 3:52:55 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 3:52:55 PM	R43705
Total Alkalinity (as CaCO3)	173.0	20.00		mg/L CaCO3	1	6/20/2017 3:52:55 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.57	0.0020	*	mg/L	1	6/19/2017 3:03:38 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.088	0.050		mg/L	1	6/20/2017 2:20:46 PM	A43663
Surr: BFB	89.7	70-130		%Rec	1	6/20/2017 2:20:46 PM	A43663
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/19/2017 6:43:30 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 6:43:30 PM	32334
Surr: DNOP	115	72.4-157		%Rec	1	6/19/2017 6:43:30 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	11	1.0		µg/L	1	6/20/2017 2:20:46 PM	R43663
Toluene	8.6	1.0		µg/L	1	6/20/2017 2:20:46 PM	R43663
Ethylbenzene	ND	1.0		µg/L	1	6/20/2017 2:20:46 PM	R43663
Xylenes, Total	2.9	1.5		µg/L	1	6/20/2017 2:20:46 PM	R43663
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	6/20/2017 2:20:46 PM	R43663
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	6/20/2017 2:20:46 PM	R43663
Surr: Dibromofluoromethane	104	70-130		%Rec	1	6/20/2017 2:20:46 PM	R43663
Surr: Toluene-d8	97.5	70-130		%Rec	1	6/20/2017 2:20:46 PM	R43663

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-15

Project: Florance GCJ 16A

Collection Date: 6/14/2017 1:00:00 PM

Lab ID: 1706923-003

Matrix: AQUEOUS

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	5.0		mg/L	10	6/16/2017 4:06:33 PM	R43601
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 4:56:12 PM	R43601
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	665.9	20.00		mg/L CaCO3	1	6/20/2017 4:03:53 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 4:03:53 PM	R43705
Total Alkalinity (as CaCO3)	665.9	20.00		mg/L CaCO3	1	6/20/2017 4:03:53 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	6.1	0.020	*	mg/L	10	6/19/2017 3:15:35 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	100	1.0		mg/L	20	6/19/2017 4:36:02 PM	A43623
Surr: BFB	96.5	70-130		%Rec	20	6/19/2017 4:36:02 PM	A43623
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.9	1.0		mg/L	1	6/19/2017 7:05:59 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 7:05:59 PM	32334
Surr: DNOP	110	72.4-157		%Rec	1	6/19/2017 7:05:59 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	11000	500		µg/L	500	6/20/2017 2:50:42 PM	R43663
Toluene	11000	500		µg/L	500	6/20/2017 2:50:42 PM	R43663
Ethylbenzene	840	20		µg/L	20	6/19/2017 4:36:02 PM	R43623
Xylenes, Total	5500	750		µg/L	500	6/20/2017 2:50:42 PM	R43663
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	20	6/19/2017 4:36:02 PM	R43623
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	20	6/19/2017 4:36:02 PM	R43623
Surr: Dibromofluoromethane	91.9	70-130		%Rec	20	6/19/2017 4:36:02 PM	R43623
Surr: Toluene-d8	104	70-130		%Rec	20	6/19/2017 4:36:02 PM	R43623

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB01

Project: Florance GCJ 16A

Collection Date: 6/14/2017 2:20:00 PM

Lab ID: 1706923-004

Matrix: AQUEOUS

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	10	6/16/2017 1:37:37 PM	R43601
Sulfate	ND	5.0		mg/L	10	6/16/2017 1:37:37 PM	R43601
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	579.3	20.00		mg/L CaCO3	1	6/20/2017 4:31:16 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 4:31:16 PM	R43705
Total Alkalinity (as CaCO3)	579.3	20.00		mg/L CaCO3	1	6/20/2017 4:31:16 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.2	0.020	*	mg/L	10	6/19/2017 3:19:23 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	37	1.0		mg/L	20	6/19/2017 5:06:27 PM	A43623
Surr: BFB	91.3	70-130		%Rec	20	6/19/2017 5:06:27 PM	A43623
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.1	1.0		mg/L	1	6/19/2017 7:28:47 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 7:28:47 PM	32334
Surr: DNOP	114	72.4-157		%Rec	1	6/19/2017 7:28:47 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	12000	200		µg/L	200	6/20/2017 3:20:44 PM	R43663
Toluene	1200	20		µg/L	20	6/19/2017 5:06:27 PM	R43623
Ethylbenzene	270	20		µg/L	20	6/19/2017 5:06:27 PM	R43623
Xylenes, Total	2400	30		µg/L	20	6/19/2017 5:06:27 PM	R43623
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	20	6/19/2017 5:06:27 PM	R43623
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	20	6/19/2017 5:06:27 PM	R43623
Surr: Dibromofluoromethane	103	70-130		%Rec	20	6/19/2017 5:06:27 PM	R43623
Surr: Toluene-d8	102	70-130		%Rec	20	6/19/2017 5:06:27 PM	R43623

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-12

Project: Florance GCJ 16A

Collection Date: 6/14/2017 3:10:00 PM

Lab ID: 1706923-005

Matrix: AQUEOUS

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	10	6/16/2017 2:02:26 PM	R43601
Sulfate	ND	5.0		mg/L	10	6/16/2017 2:02:26 PM	R43601
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	621.7	20.00		mg/L CaCO3	1	6/20/2017 4:54:48 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 4:54:48 PM	R43705
Total Alkalinity (as CaCO3)	621.7	20.00		mg/L CaCO3	1	6/20/2017 4:54:48 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	6.3	0.020	*	mg/L	10	6/19/2017 3:22:39 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	75	1.0		mg/L	20	6/19/2017 5:36:53 PM	A43623
Surr: BFB	95.8	70-130		%Rec	20	6/19/2017 5:36:53 PM	A43623
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	4.6	1.0		mg/L	1	6/19/2017 7:51:15 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 7:51:15 PM	32334
Surr: DNOP	114	72.4-157		%Rec	1	6/19/2017 7:51:15 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	14000	200		µg/L	200	6/20/2017 3:50:56 PM	R43663
Toluene	11000	200		µg/L	200	6/20/2017 3:50:56 PM	R43663
Ethylbenzene	460	20		µg/L	20	6/19/2017 5:36:53 PM	R43623
Xylenes, Total	5400	300		µg/L	200	6/20/2017 3:50:56 PM	R43663
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	20	6/19/2017 5:36:53 PM	R43623
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	20	6/19/2017 5:36:53 PM	R43623
Surr: Dibromofluoromethane	88.4	70-130		%Rec	20	6/19/2017 5:36:53 PM	R43623
Surr: Toluene-d8	102	70-130		%Rec	20	6/19/2017 5:36:53 PM	R43623

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: SB19

Project: Florance GCJ 16A

Collection Date: 6/14/2017 4:20:00 PM

Lab ID: 1706923-006

Matrix: AQUEOUS

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	10	6/16/2017 2:27:15 PM	R43601
Sulfate	9.5	5.0		mg/L	10	6/16/2017 2:27:15 PM	R43601
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	614.2	20.00		mg/L CaCO3	1	6/20/2017 5:19:53 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 5:19:53 PM	R43705
Total Alkalinity (as CaCO3)	614.2	20.00		mg/L CaCO3	1	6/20/2017 5:19:53 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.0	0.010	*	mg/L	5	6/20/2017 4:18:31 PM	A43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	50	1.0		mg/L	20	6/19/2017 6:07:20 PM	A43623
Surr: BFB	92.8	70-130		%Rec	20	6/19/2017 6:07:20 PM	A43623
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.0	1.0		mg/L	1	6/19/2017 8:13:48 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 8:13:48 PM	32334
Surr: DNOP	116	72.4-157		%Rec	1	6/19/2017 8:13:48 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	10000	200		µg/L	200	6/20/2017 4:21:14 PM	R43663
Toluene	7400	200		µg/L	200	6/20/2017 4:21:14 PM	R43663
Ethylbenzene	330	20		µg/L	20	6/19/2017 6:07:20 PM	R43623
Xylenes, Total	3300	30		µg/L	20	6/19/2017 6:07:20 PM	R43623
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	20	6/19/2017 6:07:20 PM	R43623
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	20	6/19/2017 6:07:20 PM	R43623
Surr: Dibromofluoromethane	96.1	70-130		%Rec	20	6/19/2017 6:07:20 PM	R43623
Surr: Toluene-d8	103	70-130		%Rec	20	6/19/2017 6:07:20 PM	R43623

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706923

Date Reported: 6/23/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1706923-007

Matrix: TRIP BLANK

Received Date: 6/16/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	1.0		µg/L	1	6/19/2017 2:35:14 PM	R43623
Toluene	ND	1.0		µg/L	1	6/19/2017 2:35:14 PM	R43623
Ethylbenzene	ND	1.0		µg/L	1	6/19/2017 2:35:14 PM	R43623
Xylenes, Total	ND	1.5		µg/L	1	6/19/2017 2:35:14 PM	R43623
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	6/19/2017 2:35:14 PM	R43623
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	6/19/2017 2:35:14 PM	R43623
Surr: Dibromofluoromethane	108	70-130		%Rec	1	6/19/2017 2:35:14 PM	R43623
Surr: Toluene-d8	101	70-130		%Rec	1	6/19/2017 2:35:14 PM	R43623

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-B		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	B43626		RunNo:	43626				
Prep Date:			Analysis Date:	6/19/2017		SeqNo:	1374380	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	LLLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: B43626		RunNo: 43626					
Prep Date:			Analysis Date: 6/19/2017		SeqNo: 1374381		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020	0.002000	0	98.5	50	150			

Sample ID	LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: B43626		RunNo: 43626					
Prep Date:			Analysis Date: 6/19/2017		SeqNo: 1374382		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	96.8	85	115			

Sample ID	MB-A		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	A43653		RunNo:	43653				
Prep Date:			Analysis Date:	6/20/2017		SeqNo:	1375737		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	LCSLL-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375738		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0020	0.0020	0.002000	0	102	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375739		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R43601		RunNo: 43601							
Prep Date:	Analysis Date: 6/16/2017		SeqNo: 1373580		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R43601		RunNo: 43601							
Prep Date:	Analysis Date: 6/16/2017		SeqNo: 1373581		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Sulfate	9.9	0.50	10.00	0	98.7	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-32334		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 32334		RunNo: 43597					
Prep Date:	6/16/2017		Analysis Date: 6/19/2017		SeqNo: 1374170		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.9	1.0	5.000	0	97.9	82.8	146			
Surr: DNOP	0.47		0.5000		93.2	72.4	157			

Sample ID	MB-32334	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	PBW	Batch ID: 32334			RunNo: 43597					
Prep Date:	6/16/2017	Analysis Date: 6/19/2017			SeqNo: 1374171		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.85		1.000		84.8	72.4	157			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R43623	RunNo:	43623					
Prep Date:		Analysis Date:	6/19/2017	SeqNo:	1374233	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	120	70	130			
Toluene	18	1.0	20.00	0	90.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		109	70	130			
Surr: Dibromofluoromethane	12		10.00		119	70	130			
Surr: Toluene-d8	9.6		10.00		96.3	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R43623	RunNo:	43623					
Prep Date:		Analysis Date:	6/19/2017	SeqNo:	1374234	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.9		10.00		99.5	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R43663	RunNo:	43663					
Prep Date:		Analysis Date:	6/20/2017	SeqNo:	1375542	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R43663	RunNo:	43663					
Prep Date:		Analysis Date:	6/20/2017	SeqNo:	1375544	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R43663	RunNo:	43663					
Prep Date:		Analysis Date:	6/20/2017	SeqNo:	1375544	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	117	70	130			
Toluene	18	1.0	20.00	0	91.5	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	A43623	RunNo:	43623					
Prep Date:		Analysis Date:	6/19/2017	SeqNo:	1374219	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	75.9	120			
Surr: BFB	9.3		10.00		92.9	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	A43623	RunNo:	43623					
Prep Date:		Analysis Date:	6/19/2017	SeqNo:	1374220	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		92.9	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	A43663	RunNo:	43663					
Prep Date:		Analysis Date:	6/20/2017	SeqNo:	1376076	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		93.2	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	A43663	RunNo:	43663					
Prep Date:		Analysis Date:	6/20/2017	SeqNo:	1376077	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	75.9	120			
Surr: BFB	9.0		10.00		90.0	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706923

23-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID mb-1	SampType: mblk			TestCode: SM2320B: Alkalinity						
Client ID: PBW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376590		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID ics-1	SampType: ics			TestCode: SM2320B: Alkalinity						
Client ID: LCSW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376591		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.00	20.00	80.00	0	97.5	90	110			

Sample ID mb-2	SampType: mblk			TestCode: SM2320B: Alkalinity						
Client ID: PBW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376614		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID ics-2	SampType: ics			TestCode: SM2320B: Alkalinity						
Client ID: LCSW	Batch ID: R43705			RunNo: 43705						
Prep Date:	Analysis Date: 6/20/2017			SeqNo: 1376615		Units: mg/L CaCO3				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.28	20.00	80.00	0	97.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1706923

RcptNo: 1

Received By: Anne Thorne

6/16/2017 7:55:00 AM

Completed By: Ashley Gallegos

6/16/2017 10:02:53 AM

Reviewed By: *AS*

6/16/17

AS

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0° C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: 12
(≤2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? No
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: *AS*

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

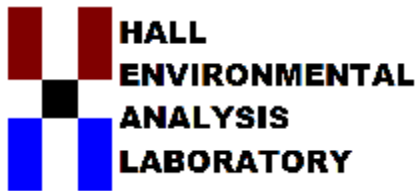
Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 27, 2017

Aaron Galer
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL:
FAX

RE: Florance GC J 16A

OrderNo.: 1706D40

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/24/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1706D40**

Date Reported: **6/27/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB12-Stack01

Project: Florance GC J 16A

Collection Date: 6/22/2017 3:05:00 PM

Lab ID: 1706D40-001

Matrix: AIR

Received Date: 6/24/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	9300	500		µg/L	100	6/26/2017 11:01:23 AM	G43790
Surr: BFB	157	40.2-203		%Rec	100	6/26/2017 11:01:23 AM	G43790
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	50	10		µg/L	100	6/26/2017 11:01:23 AM	B43790
Toluene	67	10		µg/L	100	6/26/2017 11:01:23 AM	B43790
Ethylbenzene	8.5	5.0		µg/L	100	6/26/2017 11:01:23 AM	B43790
Xylenes, Total	71	20		µg/L	100	6/26/2017 11:01:23 AM	B43790
Surr: 4-Bromofluorobenzene	125	80.9-132		%Rec	100	6/26/2017 11:01:23 AM	B43790

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1706D40**

Date Reported: **6/27/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB18-Stack01

Project: Florance GC J 16A

Collection Date: 6/22/2017 5:30:00 PM

Lab ID: 1706D40-002

Matrix: AIR

Received Date: 6/24/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1600	100		µg/L	20	6/26/2017 12:31:59 PM	G43790
Surr: BFB	156	40.2-203		%Rec	20	6/26/2017 12:31:59 PM	G43790
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	4.9	2.0		µg/L	20	6/26/2017 12:31:59 PM	B43790
Toluene	12	2.0		µg/L	20	6/26/2017 12:31:59 PM	B43790
Ethylbenzene	1.9	1.0		µg/L	20	6/26/2017 12:31:59 PM	B43790
Xylenes, Total	16	4.0		µg/L	20	6/26/2017 12:31:59 PM	B43790
Surr: 4-Bromofluorobenzene	126	80.9-132		%Rec	20	6/26/2017 12:31:59 PM	B43790

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 4
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1706D40**

Date Reported: **6/27/2017**

CLIENT: Williams Four Corners

Client Sample ID: MW-3R-Stack01

Project: Florance GC J 16A

Collection Date: 6/23/2017 12:40:00 PM

Lab ID: 1706D40-003

Matrix: AIR

Received Date: 6/24/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	29	5.0		µg/L	1	6/26/2017 12:54:41 PM	G43790
Surr: BFB	150	40.2-203		%Rec	1	6/26/2017 12:54:41 PM	G43790
EPA METHOD 8021B: VOLATILES				Analyst: NSB			
Benzene	0.11	0.10		µg/L	1	6/26/2017 12:54:41 PM	B43790
Toluene	0.34	0.10		µg/L	1	6/26/2017 12:54:41 PM	B43790
Ethylbenzene	ND	0.10		µg/L	1	6/26/2017 12:54:41 PM	B43790
Xylenes, Total	0.58	0.20		µg/L	1	6/26/2017 12:54:41 PM	B43790
Surr: 4-Bromofluorobenzene	125	80.9-132		%Rec	1	6/26/2017 12:54:41 PM	B43790

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 4
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706D40

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB04-Stack01

Project: Florance GC J 16A

Collection Date: 6/23/2017 4:20:00 PM

Lab ID: 1706D40-004

Matrix: AIR

Received Date: 6/24/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1900	50		µg/L	10	6/26/2017 1:17:23 PM	G43790
Surr: BFB	212	40.2-203	S	%Rec	10	6/26/2017 1:17:23 PM	G43790
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	1.4	1.0		µg/L	10	6/26/2017 1:17:23 PM	B43790
Toluene	ND	1.0		µg/L	10	6/26/2017 1:17:23 PM	B43790
Ethylbenzene	ND	1.0		µg/L	10	6/26/2017 1:17:23 PM	B43790
Xylenes, Total	2.0	2.0		µg/L	10	6/26/2017 1:17:23 PM	B43790
Surr: 4-Bromofluorobenzene	129	80.9-132		%Rec	10	6/26/2017 1:17:23 PM	B43790

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1706D40

RcptNo: 1

Received By: Andy Jansson 6/24/2017 10:00:00 AM

Completed By: Andy Jansson 6/24/2017 10:58:51 AM

Reviewed By:

6/26/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 27, 2017

Aaron Galer
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Florance GCJ 16A

OrderNo.: 1706880

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 6 sample(s) on 6/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706880

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB15

Project: Florance GCJ 16A

Collection Date: 6/13/2017 11:40:00 AM

Lab ID: 1706880-001

Matrix: AQUEOUS

Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	34	5.0		mg/L	10	6/16/2017 1:32:07 PM	R43583
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 4:50:39 PM	R43583
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	246.2	20.00		mg/L CaCO3	1	6/20/2017 1:51:47 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 1:51:47 PM	R43705
Total Alkalinity (as CaCO3)	246.2	20.00		mg/L CaCO3	1	6/20/2017 1:51:47 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.7	0.010	*	mg/L	5	6/20/2017 4:32:59 PM	A43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/16/2017 4:43:08 PM	C43570
Surr: BFB	92.5	70-130		%Rec	1	6/16/2017 4:43:08 PM	C43570
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/19/2017 4:06:19 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 4:06:19 PM	32334
Surr: DNOP	131	72.4-157		%Rec	1	6/19/2017 4:06:19 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	1.0		µg/L	1	6/16/2017 4:43:08 PM	D43570
Toluene	ND	1.0		µg/L	1	6/16/2017 4:43:08 PM	D43570
Ethylbenzene	ND	1.0		µg/L	1	6/16/2017 4:43:08 PM	D43570
Xylenes, Total	ND	1.5		µg/L	1	6/16/2017 4:43:08 PM	D43570
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	6/16/2017 4:43:08 PM	D43570
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	6/16/2017 4:43:08 PM	D43570
Surr: Dibromofluoromethane	109	70-130		%Rec	1	6/16/2017 4:43:08 PM	D43570
Surr: Toluene-d8	99.7	70-130		%Rec	1	6/16/2017 4:43:08 PM	D43570

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1706880**

Date Reported: **6/27/2017**

CLIENT: Williams Four Corners

Client Sample ID: SB16

Project: Florance GCJ 16A

Collection Date: 6/13/2017 12:30:00 PM

Lab ID: 1706880-002

Matrix: AQUEOUS

Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	8.6	5.0		mg/L	10	6/16/2017 2:46:33 PM	R43583
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 5:03:03 PM	R43583
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	401.0	20.00		mg/L CaCO3	1	6/20/2017 2:04:11 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 2:04:11 PM	R43705
Total Alkalinity (as CaCO3)	401.0	20.00		mg/L CaCO3	1	6/20/2017 2:04:11 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.6	0.020	*	mg/L	10	6/19/2017 4:05:16 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/16/2017 5:13:24 PM	C43570
Surr: BFB	91.0	70-130		%Rec	1	6/16/2017 5:13:24 PM	C43570
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/19/2017 4:28:32 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 4:28:32 PM	32334
Surr: DNOP	135	72.4-157		%Rec	1	6/19/2017 4:28:32 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	1.0		µg/L	1	6/16/2017 5:13:24 PM	D43570
Toluene	ND	1.0		µg/L	1	6/16/2017 5:13:24 PM	D43570
Ethylbenzene	ND	1.0		µg/L	1	6/16/2017 5:13:24 PM	D43570
Xylenes, Total	ND	1.5		µg/L	1	6/16/2017 5:13:24 PM	D43570
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/16/2017 5:13:24 PM	D43570
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	6/16/2017 5:13:24 PM	D43570
Surr: Dibromofluoromethane	102	70-130		%Rec	1	6/16/2017 5:13:24 PM	D43570
Surr: Toluene-d8	102	70-130		%Rec	1	6/16/2017 5:13:24 PM	D43570

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706880

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB17

Project: Florance GCJ 16A

Collection Date: 6/13/2017 5:00:00 PM

Lab ID: 1706880-003

Matrix: AQUEOUS

Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	11	5.0		mg/L	10	6/16/2017 3:11:22 PM	R43583
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 5:15:28 PM	R43583
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	509.6	20.00		mg/L CaCO3	1	6/20/2017 2:29:53 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 2:29:53 PM	R43705
Total Alkalinity (as CaCO3)	509.6	20.00		mg/L CaCO3	1	6/20/2017 2:29:53 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.6	0.020	*	mg/L	10	6/19/2017 4:09:11 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.16	0.050		mg/L	1	6/16/2017 5:43:46 PM	C43570
Surr: BFB	95.6	70-130		%Rec	1	6/16/2017 5:43:46 PM	C43570
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/19/2017 4:50:43 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 4:50:43 PM	32334
Surr: DNOP	137	72.4-157		%Rec	1	6/19/2017 4:50:43 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	11	1.0		µg/L	1	6/16/2017 5:43:46 PM	D43570
Toluene	3.5	1.0		µg/L	1	6/16/2017 5:43:46 PM	D43570
Ethylbenzene	ND	1.0		µg/L	1	6/16/2017 5:43:46 PM	D43570
Xylenes, Total	ND	1.5		µg/L	1	6/16/2017 5:43:46 PM	D43570
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/16/2017 5:43:46 PM	D43570
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	6/16/2017 5:43:46 PM	D43570
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	6/16/2017 5:43:46 PM	D43570
Surr: Toluene-d8	103	70-130		%Rec	1	6/16/2017 5:43:46 PM	D43570

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706880

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-11

Project: Florance GCJ 16A

Collection Date: 6/13/2017 1:35:00 PM

Lab ID: 1706880-004

Matrix: AQUEOUS

Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	5.0		mg/L	10	6/16/2017 3:36:10 PM	R43583
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 5:27:53 PM	R43583
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	550.2	20.00		mg/L CaCO3	1	6/20/2017 2:50:37 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 2:50:37 PM	R43705
Total Alkalinity (as CaCO3)	550.2	20.00		mg/L CaCO3	1	6/20/2017 2:50:37 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	5.9	0.020	*	mg/L	10	6/19/2017 4:12:57 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	0.67	0.050		mg/L	1	6/16/2017 6:14:06 PM	C43570
Surr: BFB	96.3	70-130		%Rec	1	6/16/2017 6:14:06 PM	C43570
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/19/2017 5:13:21 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 5:13:21 PM	32334
Surr: DNOP	141	72.4-157		%Rec	1	6/19/2017 5:13:21 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	36	1.0		µg/L	1	6/16/2017 6:14:06 PM	D43570
Toluene	7.6	1.0		µg/L	1	6/16/2017 6:14:06 PM	D43570
Ethylbenzene	2.7	1.0		µg/L	1	6/16/2017 6:14:06 PM	D43570
Xylenes, Total	11	1.5		µg/L	1	6/16/2017 6:14:06 PM	D43570
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/16/2017 6:14:06 PM	D43570
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	6/16/2017 6:14:06 PM	D43570
Surr: Dibromofluoromethane	107	70-130		%Rec	1	6/16/2017 6:14:06 PM	D43570
Surr: Toluene-d8	97.7	70-130		%Rec	1	6/16/2017 6:14:06 PM	D43570

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706880

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-13

Project: Florance GCJ 16A

Collection Date: 6/13/2017 3:05:00 PM

Lab ID: 1706880-005

Matrix: AQUEOUS

Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	11	5.0		mg/L	10	6/16/2017 4:01:00 PM	R43583
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/16/2017 5:40:17 PM	R43583
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	407.9	20.00		mg/L CaCO3	1	6/20/2017 3:12:57 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 3:12:57 PM	R43705
Total Alkalinity (as CaCO3)	407.9	20.00		mg/L CaCO3	1	6/20/2017 3:12:57 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.3	0.020	*	mg/L	10	6/19/2017 4:16:57 PM	B43626
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	1.6	0.050		mg/L	1	6/16/2017 6:44:30 PM	C43570
Surr: BFB	91.9	70-130		%Rec	1	6/16/2017 6:44:30 PM	C43570
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/19/2017 5:36:07 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/19/2017 5:36:07 PM	32334
Surr: DNOP	115	72.4-157		%Rec	1	6/19/2017 5:36:07 PM	32334
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG
Benzene	76	1.0		µg/L	1	6/16/2017 6:44:30 PM	D43570
Toluene	8.0	1.0		µg/L	1	6/16/2017 6:44:30 PM	D43570
Ethylbenzene	33	1.0		µg/L	1	6/16/2017 6:44:30 PM	D43570
Xylenes, Total	27	1.5		µg/L	1	6/16/2017 6:44:30 PM	D43570
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/16/2017 6:44:30 PM	D43570
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	6/16/2017 6:44:30 PM	D43570
Surr: Dibromofluoromethane	104	70-130		%Rec	1	6/16/2017 6:44:30 PM	D43570
Surr: Toluene-d8	102	70-130		%Rec	1	6/16/2017 6:44:30 PM	D43570

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706880

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1706880-006

Matrix: TRIP BLANK

Received Date: 6/15/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: AG	
Benzene	ND	1.0		µg/L	1	6/16/2017 7:14:47 PM	D43570
Toluene	ND	1.0		µg/L	1	6/16/2017 7:14:47 PM	D43570
Ethylbenzene	ND	1.0		µg/L	1	6/16/2017 7:14:47 PM	D43570
Xylenes, Total	ND	1.5		µg/L	1	6/16/2017 7:14:47 PM	D43570
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	6/16/2017 7:14:47 PM	D43570
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	6/16/2017 7:14:47 PM	D43570
Surr: Dibromofluoromethane	99.8	70-130		%Rec	1	6/16/2017 7:14:47 PM	D43570
Surr: Toluene-d8	102	70-130		%Rec	1	6/16/2017 7:14:47 PM	D43570

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-B		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	B43626		RunNo:	43626				
Prep Date:			Analysis Date:	6/19/2017		SeqNo:	1374380	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	LLLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: B43626		RunNo: 43626					
Prep Date:			Analysis Date: 6/19/2017		SeqNo: 1374381		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020	0.002000	0	98.5	50	150			

Sample ID	LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: B43626		RunNo: 43626					
Prep Date:			Analysis Date: 6/19/2017		SeqNo: 1374382		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	96.8	85	115			

Sample ID	MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375737		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LCSLL-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375738		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0020	0.0020	0.002000	0	102	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375739		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R43583		RunNo: 43583							
Prep Date:	Analysis Date: 6/16/2017		SeqNo: 1372754		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R43583		RunNo: 43583							
Prep Date:	Analysis Date: 6/16/2017		SeqNo: 1372755		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	99.9	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Sample ID 1706880-001CMS	SampType: ms		TestCode: EPA Method 300.0: Anions							
Client ID: SB15	Batch ID: R43583		RunNo: 43583							
Prep Date:	Analysis Date: 6/16/2017		SeqNo: 1372772		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	130	5.0	100.0	33.92	99.6	87.1	118			

Sample ID 1706880-001CMSD	SampType: msd		TestCode: EPA Method 300.0: Anions							
Client ID: SB15	Batch ID: R43583		RunNo: 43583							
Prep Date:	Analysis Date: 6/16/2017		SeqNo: 1372773		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	130	5.0	100.0	33.92	101	87.1	118	1.08	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-32334		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 32334		RunNo: 43597					
Prep Date:	6/16/2017		Analysis Date: 6/19/2017		SeqNo: 1374170		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.9	1.0	5.000	0	97.9	82.8	146			
Surr: DNOP	0.47		0.5000		93.2	72.4	157			

Sample ID	MB-32334		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range				
Client ID:	PBW		Batch ID:	32334		RunNo:	43597				
Prep Date:	6/16/2017		Analysis Date:	6/19/2017		SeqNo:	1374171		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									
Surr: DNOP	0.85		1.000		84.8	72.4	157				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	D43570	RunNo:	43570					
Prep Date:		Analysis Date:	6/16/2017	SeqNo:	1373239	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	70	130			
Toluene	19	1.0	20.00	0	95.6	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID	rb2	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	D43570	RunNo:	43570					
Prep Date:		Analysis Date:	6/16/2017	SeqNo:	1373276	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.8	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID	1706880-001ams	SampType:	MS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	SB15	Batch ID:	D43570	RunNo:	43570					
Prep Date:		Analysis Date:	6/16/2017	SeqNo:	1373278	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	118	70	130			
Toluene	19	1.0	20.00	0.1988	91.9	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID	1706880-001amsd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	SB15	Batch ID:	D43570	RunNo:	43570					
Prep Date:		Analysis Date:	6/16/2017	SeqNo:	1373279	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130	6.09	20	
Toluene	18	1.0	20.00	0.1988	86.9	70	130	5.54	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1706880-001amsd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	SB15	Batch ID:	D43570	RunNo:	43570					
Prep Date:		Analysis Date:	6/16/2017	SeqNo:	1373279	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		108	70	130	0	0	
Surr: Toluene-d8	9.7		10.00		97.2	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	rb2	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID: C43570			RunNo: 43570					
Prep Date:		Analysis Date: 6/16/2017			SeqNo: 1373180		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.2		10.00		91.9	70	130			

Sample ID	2.5ug lcs2		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: C43570		RunNo: 43570					
Prep Date:			Analysis Date: 6/17/2017		SeqNo: 1373181		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	101	75.9	120			
Surr: BFB	9.3		10.00		93.1	70	130			

Sample ID	1706880-002ams		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	SB16		Batch ID: C43570		RunNo: 43570					
Prep Date:			Analysis Date: 6/16/2017		SeqNo: 1373187		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0.04760	88.1	70	130			
Surr: BFB	9.3		10.00		93.2	70	130			

Sample ID	1706880-002amsd		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	SB16		Batch ID: C43570		RunNo: 43570					
Prep Date:			Analysis Date: 6/16/2017		SeqNo: 1373188		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0.04760	83.4	70	130	4.95	20	
Surr: BFB	8.9		10.00		89.4	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706880

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1		SampType: mblk		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R43705		RunNo: 43705					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1376590		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	Ics-1		SampType: Ics		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R43705		RunNo: 43705					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1376591		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.00	20.00	80.00	0	97.5	90	110			

Sample ID	mb-2		SampType:	mblk		TestCode:	SM2320B: Alkalinity				
Client ID:	PBW		Batch ID:	R43705		RunNo:	43705				
Prep Date:			Analysis Date:	6/20/2017		SeqNo:	1376614		Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	Ics-2		SampType: Ics		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R43705		RunNo: 43705					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1376615		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.28	20.00	80.00	0	97.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1706880

RcptNo: 1

Received By: Sophia Campuzano 6/15/2017 9:00:00 AM

Completed By: Ashley Gallegos 6/15/2017 1:16:19 PM

Reviewed By: ENM 06/16/17

Sophia Campuzano

Ashley Gallegos

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 27, 2017

Aaron Galer
Williams Four Corners
188 CR 4900
Bloomfield, NM 87413
TEL: (505) 632-4442
FAX

RE: Florance GCJ 16A

OrderNo.: 1706979

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 9 sample(s) on 6/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB06

Project: Florance GCJ 16A

Collection Date: 6/16/2017 11:15:00 AM

Lab ID: 1706979-001

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	ND	2.5		mg/L	5	6/24/2017 10:04:05 PM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 1:22:39 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	634.2	20.00		mg/L CaCO3	1	6/20/2017 9:36:56 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 9:36:56 PM	R43705
Total Alkalinity (as CaCO3)	634.2	20.00		mg/L CaCO3	1	6/20/2017 9:36:56 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	15	0.040	*	mg/L	20	6/22/2017 3:31:12 PM	B43729
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	3.6	0.50		mg/L	10	6/21/2017 11:00:25 AM	R43704
Surr: BFB	93.3	70-130		%Rec	10	6/21/2017 11:00:25 AM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.5	1.0		mg/L	1	6/21/2017 12:43:13 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 12:43:13 PM	32395
Surr: DNOP	121	72.4-157		%Rec	1	6/21/2017 12:43:13 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	210	10		µg/L	10	6/21/2017 2:16:29 AM	SL43666
Toluene	230	10		µg/L	10	6/21/2017 2:16:29 AM	SL43666
Ethylbenzene	11	1.0		µg/L	1	6/20/2017 2:12:23 PM	SL43666
Xylenes, Total	110	1.5		µg/L	1	6/20/2017 2:12:23 PM	SL43666
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%Rec	1	6/20/2017 2:12:23 PM	SL43666
Surr: 4-Bromofluorobenzene	149	70-130	S	%Rec	1	6/20/2017 2:12:23 PM	SL43666
Surr: Dibromofluoromethane	92.9	70-130		%Rec	1	6/20/2017 2:12:23 PM	SL43666
Surr: Toluene-d8	105	70-130		%Rec	1	6/20/2017 2:12:23 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB07

Project: Florance GCJ 16A

Collection Date: 6/16/2017 11:50:00 AM

Lab ID: 1706979-002

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	ND	2.5		mg/L	5	6/24/2017 10:28:54 PM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 1:35:04 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	562.8	20.00		mg/L CaCO3	1	6/20/2017 10:01:16 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 10:01:16 PM	R43705
Total Alkalinity (as CaCO3)	562.8	20.00		mg/L CaCO3	1	6/20/2017 10:01:16 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	4.9	0.020	*	mg/L	10	6/20/2017 5:01:21 PM	B43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	110	25		mg/L	500	6/21/2017 11:29:44 AM	R43704
Surr: BFB	94.9	70-130		%Rec	500	6/21/2017 11:29:44 AM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	12	1.0		mg/L	1	6/21/2017 1:50:10 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 1:50:10 PM	32395
Surr: DNOP	124	72.4-157		%Rec	1	6/21/2017 1:50:10 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	14000	500		µg/L	500	6/21/2017 10:36:51 AM	W43706
Toluene	15000	500		µg/L	500	6/21/2017 10:36:51 AM	W43706
Ethylbenzene	670	100		µg/L	100	6/21/2017 2:45:10 AM	SL43666
Xylenes, Total	7600	150		µg/L	100	6/21/2017 2:45:10 AM	SL43666
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	100	6/21/2017 2:45:10 AM	SL43666
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	100	6/21/2017 2:45:10 AM	SL43666
Surr: Dibromofluoromethane	98.9	70-130		%Rec	100	6/21/2017 2:45:10 AM	SL43666
Surr: Toluene-d8	107	70-130		%Rec	100	6/21/2017 2:45:10 AM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-3R

Project: Florance GCJ 16A

Collection Date: 6/16/2017 1:00:00 PM

Lab ID: 1706979-003

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	3.6	2.5		mg/L	5	6/24/2017 10:53:45 PM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 1:47:28 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	467.6	20.00		mg/L CaCO3	1	6/20/2017 10:24:09 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 10:24:09 PM	R43705
Total Alkalinity (as CaCO3)	467.6	20.00		mg/L CaCO3	1	6/20/2017 10:24:09 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.5	0.020	*	mg/L	10	6/20/2017 5:04:38 PM	B43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	99	25		mg/L	500	6/21/2017 11:59:05 AM	R43704
Surr: BFB	89.9	70-130		%Rec	500	6/21/2017 11:59:05 AM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	10	1.0		mg/L	1	6/21/2017 2:12:25 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 2:12:25 PM	32395
Surr: DNOP	124	72.4-157		%Rec	1	6/21/2017 2:12:25 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	15000	500		µg/L	500	6/21/2017 11:05:41 AM	W43706
Toluene	14000	500		µg/L	500	6/21/2017 11:05:41 AM	W43706
Ethylbenzene	530	100		µg/L	100	6/21/2017 3:13:52 AM	SL43666
Xylenes, Total	5500	150		µg/L	100	6/21/2017 3:13:52 AM	SL43666
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	100	6/21/2017 3:13:52 AM	SL43666
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	100	6/21/2017 3:13:52 AM	SL43666
Surr: Dibromofluoromethane	104	70-130		%Rec	100	6/21/2017 3:13:52 AM	SL43666
Surr: Toluene-d8	103	70-130		%Rec	100	6/21/2017 3:13:52 AM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB09

Project: Florance GCJ 16A

Collection Date: 6/16/2017 1:45:00 PM

Lab ID: 1706979-004

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	3.1	2.5		mg/L	5	6/24/2017 11:18:34 PM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 2:37:06 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	592.0	20.00		mg/L CaCO3	1	6/20/2017 10:43:54 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 10:43:54 PM	R43705
Total Alkalinity (as CaCO3)	592.0	20.00		mg/L CaCO3	1	6/20/2017 10:43:54 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.7	0.020	*	mg/L	10	6/20/2017 5:07:57 PM	B43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	78	25		mg/L	500	6/21/2017 12:28:39 PM	R43704
Surr: BFB	91.0	70-130		%Rec	500	6/21/2017 12:28:39 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.2	1.0		mg/L	1	6/21/2017 2:35:01 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 2:35:01 PM	32395
Surr: DNOP	126	72.4-157		%Rec	1	6/21/2017 2:35:01 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	11000	500		µg/L	500	6/21/2017 11:34:33 AM	W43706
Toluene	9700	500		µg/L	500	6/21/2017 11:34:33 AM	W43706
Ethylbenzene	430	10		µg/L	10	6/20/2017 5:09:03 PM	SL43666
Xylenes, Total	3900	750		µg/L	500	6/21/2017 11:34:33 AM	W43706
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	10	6/20/2017 5:09:03 PM	SL43666
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	10	6/20/2017 5:09:03 PM	SL43666
Surr: Dibromofluoromethane	97.2	70-130		%Rec	10	6/20/2017 5:09:03 PM	SL43666
Surr: Toluene-d8	100	70-130		%Rec	10	6/20/2017 5:09:03 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB08

Project: Florance GCJ 16A

Collection Date: 6/16/2017 2:30:00 PM

Lab ID: 1706979-005

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	6.1	2.5		mg/L	5	6/25/2017 12:08:12 AM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 2:49:31 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	477.9	20.00		mg/L CaCO3	1	6/20/2017 11:06:56 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 11:06:56 PM	R43705
Total Alkalinity (as CaCO3)	477.9	20.00		mg/L CaCO3	1	6/20/2017 11:06:56 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.7	0.020	*	mg/L	10	6/20/2017 5:11:47 PM	B43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	110	25		mg/L	500	6/21/2017 12:58:13 PM	R43704
Surr: BFB	92.8	70-130		%Rec	500	6/21/2017 12:58:13 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	7.7	1.0		mg/L	1	6/21/2017 2:57:12 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 2:57:12 PM	32395
Surr: DNOP	127	72.4-157		%Rec	1	6/21/2017 2:57:12 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	15000	500		µg/L	500	6/21/2017 12:03:28 PM	W43706
Toluene	15000	500		µg/L	500	6/21/2017 12:03:28 PM	W43706
Ethylbenzene	690	10		µg/L	10	6/20/2017 5:38:30 PM	SL43666
Xylenes, Total	7000	750		µg/L	500	6/21/2017 12:03:28 PM	W43706
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	10	6/20/2017 5:38:30 PM	SL43666
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	10	6/20/2017 5:38:30 PM	SL43666
Surr: Dibromofluoromethane	93.9	70-130		%Rec	10	6/20/2017 5:38:30 PM	SL43666
Surr: Toluene-d8	105	70-130		%Rec	10	6/20/2017 5:38:30 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB11

Project: Florance GCJ 16A

Collection Date: 6/16/2017 3:50:00 PM

Lab ID: 1706979-006

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	32	2.5		mg/L	5	6/25/2017 12:33:00 AM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 3:01:55 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	482.4	20.00		mg/L CaCO3	1	6/20/2017 11:26:58 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 11:26:58 PM	R43705
Total Alkalinity (as CaCO3)	482.4	20.00		mg/L CaCO3	1	6/20/2017 11:26:58 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	4.6	0.020	*	mg/L	10	6/20/2017 5:21:26 PM	B43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	120	25		mg/L	500	6/21/2017 1:28:03 PM	R43704
Surr: BFB	92.7	70-130		%Rec	500	6/21/2017 1:28:03 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	3.9	1.0		mg/L	1	6/21/2017 3:19:35 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 3:19:35 PM	32395
Surr: DNOP	123	72.4-157		%Rec	1	6/21/2017 3:19:35 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	13000	500		µg/L	500	6/21/2017 12:32:27 PM	W43706
Toluene	20000	500		µg/L	500	6/21/2017 12:32:27 PM	W43706
Ethylbenzene	750	10		µg/L	10	6/20/2017 6:07:50 PM	SL43666
Xylenes, Total	6500	750		µg/L	500	6/21/2017 12:32:27 PM	W43706
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	10	6/20/2017 6:07:50 PM	SL43666
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	10	6/20/2017 6:07:50 PM	SL43666
Surr: Dibromofluoromethane	93.4	70-130		%Rec	10	6/20/2017 6:07:50 PM	SL43666
Surr: Toluene-d8	105	70-130		%Rec	10	6/20/2017 6:07:50 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB10

Project: Florance GCJ 16A

Collection Date: 6/16/2017 4:30:00 PM

Lab ID: 1706979-007

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	27	2.5		mg/L	5	6/25/2017 12:57:50 AM	R43798
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 3:14:20 AM	R43798
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	510.7	20.00		mg/L CaCO3	1	6/20/2017 11:46:57 PM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/20/2017 11:46:57 PM	R43705
Total Alkalinity (as CaCO3)	510.7	20.00		mg/L CaCO3	1	6/20/2017 11:46:57 PM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.7	0.020	*	mg/L	10	6/20/2017 5:25:22 PM	B43653
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	82	25		mg/L	500	6/21/2017 1:58:00 PM	R43704
Surr: BFB	90.9	70-130		%Rec	500	6/21/2017 1:58:00 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.1	1.0		mg/L	1	6/21/2017 3:41:51 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 3:41:51 PM	32395
Surr: DNOP	126	72.4-157		%Rec	1	6/21/2017 3:41:51 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	11000	500		µg/L	500	6/21/2017 1:01:32 PM	W43706
Toluene	9000	500		µg/L	500	6/21/2017 1:01:32 PM	W43706
Ethylbenzene	590	10		µg/L	10	6/20/2017 6:37:06 PM	SL43666
Xylenes, Total	4300	750		µg/L	500	6/21/2017 1:01:32 PM	W43706
Surr: 1,2-Dichloroethane-d4	96.7	70-130		%Rec	10	6/20/2017 6:37:06 PM	SL43666
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	10	6/20/2017 6:37:06 PM	SL43666
Surr: Dibromofluoromethane	93.6	70-130		%Rec	10	6/20/2017 6:37:06 PM	SL43666
Surr: Toluene-d8	106	70-130		%Rec	10	6/20/2017 6:37:06 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: SB13

Project: Florance GCJ 16A

Collection Date: 6/16/2017 5:00:00 PM

Lab ID: 1706979-008

Matrix: AQUEOUS

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	12	2.5		mg/L	5	6/25/2017 3:15:39 AM	R43797
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/25/2017 3:40:28 AM	R43797
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	480.2	20.00		mg/L CaCO3	1	6/21/2017 12:07:22 AM	R43705
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/21/2017 12:07:22 AM	R43705
Total Alkalinity (as CaCO3)	480.2	20.00		mg/L CaCO3	1	6/21/2017 12:07:22 AM	R43705
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	14	0.040	*	mg/L	20	6/22/2017 3:33:30 PM	B43729
EPA METHOD 8015D: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	3.9	0.50		mg/L	10	6/21/2017 2:28:17 PM	R43704
Surr: BFB	92.5	70-130		%Rec	10	6/21/2017 2:28:17 PM	R43704
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/21/2017 4:04:20 PM	32395
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/21/2017 4:04:20 PM	32395
Surr: DNOP	130	72.4-157		%Rec	1	6/21/2017 4:04:20 PM	32395
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	150	10		µg/L	10	6/21/2017 1:30:42 PM	W43706
Toluene	86	10		µg/L	10	6/21/2017 1:30:42 PM	W43706
Ethylbenzene	9.3	1.0		µg/L	1	6/20/2017 7:06:13 PM	SL43666
Xylenes, Total	52	1.5		µg/L	1	6/20/2017 7:06:13 PM	SL43666
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	6/20/2017 7:06:13 PM	SL43666
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	6/20/2017 7:06:13 PM	SL43666
Surr: Dibromofluoromethane	99.4	70-130		%Rec	1	6/20/2017 7:06:13 PM	SL43666
Surr: Toluene-d8	102	70-130		%Rec	1	6/20/2017 7:06:13 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706979

Date Reported: 6/27/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1706979-009

Matrix: TRIP BLANK

Received Date: 6/19/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	1.0		µg/L	1	6/20/2017 7:35:14 PM	SL43666
Toluene	ND	1.0		µg/L	1	6/20/2017 7:35:14 PM	SL43666
Ethylbenzene	ND	1.0		µg/L	1	6/20/2017 7:35:14 PM	SL43666
Xylenes, Total	ND	1.5		µg/L	1	6/20/2017 7:35:14 PM	SL43666
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	6/20/2017 7:35:14 PM	SL43666
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	6/20/2017 7:35:14 PM	SL43666
Surr: Dibromofluoromethane	102	70-130		%Rec	1	6/20/2017 7:35:14 PM	SL43666
Surr: Toluene-d8	97.0	70-130		%Rec	1	6/20/2017 7:35:14 PM	SL43666

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-B		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	B43653		RunNo:	43653				
Prep Date:			Analysis Date:	6/20/2017		SeqNo:	1375740	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	LCSLL-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: B43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375741		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	103	50	150			

Sample ID	LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: B43653		RunNo: 43653					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1375742		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.47	0.0020	0.5000	0	95.0	85	115			

Sample ID	MB-B		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: B43729		RunNo: 43729					
Prep Date:			Analysis Date: 6/22/2017		SeqNo: 1377500		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LCSLL-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: B43729		RunNo: 43729					
Prep Date:			Analysis Date: 6/22/2017		SeqNo: 1377501		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020	0.002000	0	99.0	50	150			

Sample ID	LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: B43729		RunNo: 43729					
Prep Date:			Analysis Date: 6/22/2017		SeqNo: 1377502		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mbk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R43798		RunNo: 43798							
Prep Date:	Analysis Date: 6/24/2017		SeqNo: 1381110		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R43798		RunNo: 43798							
Prep Date:	Analysis Date: 6/24/2017		SeqNo: 1381111		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.7	0.50	10.00	0	97.1	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.3	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1706979-001BMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	SB06	Batch ID:	32395	RunNo:	43676					
Prep Date:	6/20/2017	Analysis Date:	6/21/2017	SeqNo:	1376966	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	8.4	1.0	5.000	2.484	119	87.2	145			
Surr: DNOP	0.62		0.5000		125	72.4	157			

Sample ID	1706979-001BMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	SB06	Batch ID:	32395	RunNo:	43676					
Prep Date:	6/20/2017	Analysis Date:	6/21/2017	SeqNo:	1376967	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	9.0	1.0	5.000	2.484	130	87.2	145	6.33	20	
Surr: DNOP	0.63		0.5000		127	72.4	157	0	0	

Sample ID	LCS-32395	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW	Batch ID:	32395	RunNo:	43676					
Prep Date:	6/20/2017	Analysis Date:	6/21/2017	SeqNo:	1376975	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	111	82.8	146			
Surr: DNOP	0.59		0.5000		118	72.4	157			

Sample ID	MB-32395	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	PBW	Batch ID:	32395	RunNo:	43676					
Prep Date:	6/20/2017	Analysis Date:	6/21/2017	SeqNo:	1376976	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		117	72.4	157			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID rb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: SL43666		RunNo: 43666							
Prep Date:	Analysis Date: 6/20/2017		SeqNo: 1375552		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID 100ng lcs	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: SL43666		RunNo: 43666							
Prep Date:	Analysis Date: 6/20/2017		SeqNo: 1375559		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID 1706979-001a ms	SampType: MS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: SB06	Batch ID: SL43666		RunNo: 43666							
Prep Date:	Analysis Date: 6/20/2017		SeqNo: 1375634		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	250	1.0	20.00	232.3	95.8	70	130			E
Toluene	340	1.0	20.00	416.5	-382	70	130			ES
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	15		10.00		154	70	130			S
Surr: Dibromofluoromethane	9.4		10.00		94.4	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID 1706979-001a msd	SampType: MSD		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: SB06	Batch ID: SL43666		RunNo: 43666							
Prep Date:	Analysis Date: 6/20/2017		SeqNo: 1375635		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	240	1.0	20.00	232.3	17.3	70	130	6.44	20	ES
Toluene	310	1.0	20.00	416.5	-554	70	130	10.6	20	ES

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1706979-001a msd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	SB06	Batch ID:	SL43666	RunNo:	43666					
Prep Date:		Analysis Date:	6/20/2017	SeqNo:	1375635	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130	0	0	
Surr: 4-Bromofluorobenzene	15		10.00		150	70	130	0	0	S
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		99.4	70	130	0	0	

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	W43706	RunNo:	43706					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376674	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.4	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	W43706	RunNo:	43706					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376675	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	115	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.6	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376523	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.7		10.00		96.9	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	R43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376525	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	75.9	120			
Surr: BFB	9.2		10.00		92.4	70	130			

Sample ID	1706979-002ams	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SB07	Batch ID:	R43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376535	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	320	25	250.0	111.1	85.2	70	130			
Surr: BFB	4500		5000		90.7	70	130			

Sample ID	1706979-002amsd	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SB07	Batch ID:	R43704	RunNo:	43704					
Prep Date:		Analysis Date:	6/21/2017	SeqNo:	1376536	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	330	25	250.0	111.1	88.0	70	130	2.11	20	
Surr: BFB	4600		5000		92.4	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706979

27-Jun-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1		SampType: mblk		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R43705		RunNo: 43705					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1376590		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	Ics-1		SampType: Ics		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R43705		RunNo: 43705					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1376591		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.00	20.00	80.00	0	97.5	90	110			

Sample ID	mb-2		SampType:	mblk		TestCode:	SM2320B: Alkalinity				
Client ID:	PBW		Batch ID:	R43705		RunNo:	43705				
Prep Date:			Analysis Date:	6/20/2017		SeqNo:	1376614		Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	Ics-2		SampType: Ics		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R43705		RunNo: 43705					
Prep Date:			Analysis Date: 6/20/2017		SeqNo: 1376615		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.28	20.00	80.00	0	97.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1706979

RcptNo: 1

Received By: Andy Jansson

6/19/2017 8:25:00 AM

Completed By: Ashley Gallegos

6/19/2017 10:13:26 AM

Reviewed By: *AT 06/19/17*

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: *16*
Adjusted? *No*
Checked by: *aj*

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 31, 2017

Aaron Galer

Williams Four Corners
295 Chipeta Way
Salt Lake City, UT 84105
TEL: (505) 632-4442
FAX

RE: Florance GCJ 16A

OrderNo.: 1710C26

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/24/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710C26

Date Reported: 10/31/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-09

Project: Florance GCJ 16A

Collection Date: 10/23/2017 10:30:00 AM

Lab ID: 1710C26-001

Matrix: AQUEOUS

Received Date: 10/24/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	10/24/2017 5:19:19 PM	R46633
Sulfate	510	10	*	mg/L	20	10/24/2017 5:31:44 PM	R46633
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	445.9	20.00		mg/L CaCO3	1	10/26/2017 2:25:17 AM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/26/2017 2:25:17 AM	R46675
Total Alkalinity (as CaCO3)	445.9	20.00		mg/L CaCO3	1	10/26/2017 2:25:17 AM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.88	0.0020	*	mg/L	1	10/25/2017 7:20:26 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/25/2017 10:18:36 AM	34601
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/25/2017 10:18:36 AM	34601
Surr: DNOP	103	77.5-161		%Rec	1	10/25/2017 10:18:36 AM	34601
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/25/2017 10:49:35 AM	G46639
Surr: BFB	117	69.3-150		%Rec	1	10/25/2017 10:49:35 AM	G46639
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	1.4	1.0		µg/L	1	10/25/2017 5:32:00 AM	SL46616
Toluene	1.7	1.0		µg/L	1	10/25/2017 5:32:00 AM	SL46616
Ethylbenzene	ND	1.0		µg/L	1	10/25/2017 5:32:00 AM	SL46616
Xylenes, Total	ND	1.5		µg/L	1	10/25/2017 5:32:00 AM	SL46616
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	10/25/2017 5:32:00 AM	SL46616
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	10/25/2017 5:32:00 AM	SL46616
Surr: Dibromofluoromethane	103	70-130		%Rec	1	10/25/2017 5:32:00 AM	SL46616
Surr: Toluene-d8	100	70-130		%Rec	1	10/25/2017 5:32:00 AM	SL46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710C26

Date Reported: 10/31/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-04

Project: Florance GCJ 16A

Collection Date: 10/23/2017 10:35:00 AM

Lab ID: 1710C26-002

Matrix: AQUEOUS

Received Date: 10/24/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	10/24/2017 5:44:08 PM	R46633
Sulfate	430	10	*	mg/L	20	10/24/2017 5:56:33 PM	R46633
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	493.8	20.00		mg/L CaCO3	1	10/26/2017 2:43:44 AM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/26/2017 2:43:44 AM	R46675
Total Alkalinity (as CaCO3)	493.8	20.00		mg/L CaCO3	1	10/26/2017 2:43:44 AM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.53	0.0020	*	mg/L	1	10/25/2017 7:24:17 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/25/2017 11:24:47 AM	34601
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/25/2017 11:24:47 AM	34601
Surr: DNOP	99.2	77.5-161		%Rec	1	10/25/2017 11:24:47 AM	34601
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/25/2017 11:13:04 AM	G46639
Surr: BFB	116	69.3-150		%Rec	1	10/25/2017 11:13:04 AM	G46639
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	1.8	1.0		µg/L	1	10/25/2017 5:55:00 AM	SL46616
Toluene	2.3	1.0		µg/L	1	10/25/2017 5:55:00 AM	SL46616
Ethylbenzene	ND	1.0		µg/L	1	10/25/2017 5:55:00 AM	SL46616
Xylenes, Total	ND	1.5		µg/L	1	10/25/2017 5:55:00 AM	SL46616
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	10/25/2017 5:55:00 AM	SL46616
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	10/25/2017 5:55:00 AM	SL46616
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/25/2017 5:55:00 AM	SL46616
Surr: Toluene-d8	100	70-130		%Rec	1	10/25/2017 5:55:00 AM	SL46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710C26

Date Reported: 10/31/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-06

Project: Florance GCJ 16A

Collection Date: 10/23/2017 12:15:00 PM

Lab ID: 1710C26-003

Matrix: AQUEOUS

Received Date: 10/24/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	10/24/2017 6:08:57 PM	R46633
Sulfate	15	0.50		mg/L	1	10/24/2017 6:08:57 PM	R46633
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	317.3	20.00		mg/L CaCO3	1	10/26/2017 3:04:24 AM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/26/2017 3:04:24 AM	R46675
Total Alkalinity (as CaCO3)	317.3	20.00		mg/L CaCO3	1	10/26/2017 3:04:24 AM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.92	0.0020	*	mg/L	1	10/25/2017 7:27:57 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/25/2017 11:46:49 AM	34601
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/25/2017 11:46:49 AM	34601
Surr: DNOP	103	77.5-161		%Rec	1	10/25/2017 11:46:49 AM	34601
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.059	0.050		mg/L	1	10/25/2017 11:36:38 AM	G46639
Surr: BFB	114	69.3-150		%Rec	1	10/25/2017 11:36:38 AM	G46639
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	1.9	1.0		µg/L	1	10/25/2017 6:18:00 AM	SL46616
Toluene	2.0	1.0		µg/L	1	10/25/2017 6:18:00 AM	SL46616
Ethylbenzene	ND	1.0		µg/L	1	10/25/2017 6:18:00 AM	SL46616
Xylenes, Total	ND	1.5		µg/L	1	10/25/2017 6:18:00 AM	SL46616
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	10/25/2017 6:18:00 AM	SL46616
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/25/2017 6:18:00 AM	SL46616
Surr: Dibromofluoromethane	101	70-130		%Rec	1	10/25/2017 6:18:00 AM	SL46616
Surr: Toluene-d8	99.7	70-130		%Rec	1	10/25/2017 6:18:00 AM	SL46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710C26

Date Reported: 10/31/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-08

Project: Florance GCJ 16A

Collection Date: 10/23/2017 11:55:00 AM

Lab ID: 1710C26-004

Matrix: AQUEOUS

Received Date: 10/24/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	10/25/2017 11:03:03 AM	R46679
Sulfate	13	0.50		mg/L	1	10/25/2017 11:03:03 AM	R46679
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	472.7	20.00		mg/L CaCO3	1	10/26/2017 3:18:50 AM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/26/2017 3:18:50 AM	R46675
Total Alkalinity (as CaCO3)	472.7	20.00		mg/L CaCO3	1	10/26/2017 3:18:50 AM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.0	0.020	*	mg/L	10	10/25/2017 7:38:57 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/25/2017 12:08:41 PM	34601
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/25/2017 12:08:41 PM	34601
Surr: DNOP	105	77.5-161		%Rec	1	10/25/2017 12:08:41 PM	34601
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.19	0.050		mg/L	1	10/25/2017 12:00:19 PM	G46639
Surr: BFB	123	69.3-150		%Rec	1	10/25/2017 12:00:19 PM	G46639
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	2.6	1.0		µg/L	1	10/25/2017 6:41:00 AM	SL46616
Toluene	1.1	1.0		µg/L	1	10/25/2017 6:41:00 AM	SL46616
Ethylbenzene	1.1	1.0		µg/L	1	10/25/2017 6:41:00 AM	SL46616
Xylenes, Total	ND	1.5		µg/L	1	10/25/2017 6:41:00 AM	SL46616
Surr: 1,2-Dichloroethane-d4	95.3	70-130		%Rec	1	10/25/2017 6:41:00 AM	SL46616
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	10/25/2017 6:41:00 AM	SL46616
Surr: Dibromofluoromethane	100	70-130		%Rec	1	10/25/2017 6:41:00 AM	SL46616
Surr: Toluene-d8	99.9	70-130		%Rec	1	10/25/2017 6:41:00 AM	SL46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710C26

Date Reported: 10/31/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-13

Project: Florance GCJ 16A

Collection Date: 10/23/2017 1:10:00 PM

Lab ID: 1710C26-005

Matrix: AQUEOUS

Received Date: 10/24/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/25/2017 11:52:41 AM	R46679
Sulfate	51	2.5		mg/L	5	10/25/2017 11:52:41 AM	R46679
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	245.4	20.00		mg/L CaCO3	1	10/26/2017 3:37:36 AM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/26/2017 3:37:36 AM	R46675
Total Alkalinity (as CaCO3)	245.4	20.00		mg/L CaCO3	1	10/26/2017 3:37:36 AM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	4.7	0.020	*	mg/L	10	10/25/2017 7:50:53 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/25/2017 12:30:42 PM	34601
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/25/2017 12:30:42 PM	34601
Surr: DNOP	105	77.5-161		%Rec	1	10/25/2017 12:30:42 PM	34601
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	3.8	0.25		mg/L	5	10/25/2017 12:24:01 PM	G46639
Surr: BFB	118	69.3-150		%Rec	5	10/25/2017 12:24:01 PM	G46639
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	220	5.0		µg/L	5	10/25/2017 7:04:00 AM	SL46616
Toluene	ND	5.0		µg/L	5	10/25/2017 7:04:00 AM	SL46616
Ethylbenzene	6.4	5.0		µg/L	5	10/25/2017 7:04:00 AM	SL46616
Xylenes, Total	12	7.5		µg/L	5	10/25/2017 7:04:00 AM	SL46616
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%Rec	5	10/25/2017 7:04:00 AM	SL46616
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	5	10/25/2017 7:04:00 AM	SL46616
Surr: Dibromofluoromethane	99.5	70-130		%Rec	5	10/25/2017 7:04:00 AM	SL46616
Surr: Toluene-d8	102	70-130		%Rec	5	10/25/2017 7:04:00 AM	SL46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710C26

Date Reported: 10/31/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1710C26-006

Matrix: AQUEOUS

Received Date: 10/24/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: RAA	
Benzene	ND	1.0		µg/L	1	10/25/2017 7:27:00 AM	SL46616
Toluene	ND	1.0		µg/L	1	10/25/2017 7:27:00 AM	SL46616
Ethylbenzene	ND	1.0		µg/L	1	10/25/2017 7:27:00 AM	SL46616
Xylenes, Total	ND	1.5		µg/L	1	10/25/2017 7:27:00 AM	SL46616
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	1	10/25/2017 7:27:00 AM	SL46616
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/25/2017 7:27:00 AM	SL46616
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/25/2017 7:27:00 AM	SL46616
Surr: Toluene-d8	99.7	70-130		%Rec	1	10/25/2017 7:27:00 AM	SL46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710C26

31-Oct-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486426		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486428		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	106	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486441		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	95.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710C26

31-Oct-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R46633		RunNo: 46633							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1485451		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R46633		RunNo: 46633							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1485452		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Sulfate	9.8	0.50	10.00	0	97.8	90	110			

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R46679		RunNo: 46679							
Prep Date:	Analysis Date: 10/25/2017		SeqNo: 1487185		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R46679		RunNo: 46679							
Prep Date:	Analysis Date: 10/25/2017		SeqNo: 1487186		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.4	90	110			
Sulfate	9.5	0.50	10.00	0	94.7	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710C26

31-Oct-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1710C26-001BMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	MW-09	Batch ID:	34601	RunNo:	46628					
Prep Date:	10/24/2017	Analysis Date:	10/25/2017	SeqNo:	1485367	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	116	83.3	151			
Surr: DNOP	0.50		0.5000		100	77.5	161			

Sample ID	1710C26-001BMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	MW-09	Batch ID:	34601	RunNo:	46628					
Prep Date:	10/24/2017	Analysis Date:	10/25/2017	SeqNo:	1485368	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	112	83.3	151	3.39	20	
Surr: DNOP	0.48		0.5000		95.5	77.5	161	0	0	

Sample ID	LCS-34601	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW	Batch ID:	34601	RunNo:	46628					
Prep Date:	10/24/2017	Analysis Date:	10/25/2017	SeqNo:	1485372	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	110	92.3	135			
Surr: DNOP	0.46		0.5000		92.4	77.5	161			

Sample ID	MB-34601	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	PBW	Batch ID:	34601	RunNo:	46628					
Prep Date:	10/24/2017	Analysis Date:	10/25/2017	SeqNo:	1485373	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.96		1.000		96.3	77.5	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710C26

31-Oct-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1710C26-001AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	MW-09		Batch ID: G46639		RunNo: 46639					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1485618		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	110	53.2	134			
Surr: BFB	25		20.00		124	69.3	150			

Sample ID	1710C26-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	MW-09		Batch ID:	G46639		RunNo:	46639				
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1485619		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	53.2	134	6.97	20		
Surr: BFB	24		20.00		118	69.3	150	0	0		

Sample ID	RB	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID: G46639			RunNo: 46639					
Prep Date:		Analysis Date: 10/25/2017			SeqNo: 1485876		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	23		20.00		113	69.3	150			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: G46639		RunNo: 46639					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1485877		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	75.8	123			
Surr: BFB	24		20.00		120	69.3	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710C26

31-Oct-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46616	RunNo:	46616					
Prep Date:		Analysis Date:	10/25/2017	SeqNo:	1484681	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.9	70	130			
Toluene	19	1.0	20.00	0	92.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID	rb6	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	SL46616	RunNo:	46616					
Prep Date:		Analysis Date:	10/25/2017	SeqNo:	1484683	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.3	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.8	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710C26

31-Oct-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity				
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675				
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487036		Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	lcs-1 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46675		RunNo: 46675					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1487037		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.48	20.00	80.00	0	98.1	90	110			

Sample ID	mb-2 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity				
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675				
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487060	Units:	mg/L CaCO3		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	lcs-2 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46675		RunNo: 46675					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1487061		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.68	20.00	80.00	0	103	90	110			

Sample ID	mb-3 alk		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R46675		RunNo: 46675					
Prep Date:			Analysis Date: 10/26/2017		SeqNo: 1487084		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-3 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46675		RunNo: 46675					
Prep Date:			Analysis Date: 10/26/2017		SeqNo: 1487085		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	83.44	20.00	80.00	0	104	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1710C26

ReptNo: 1

Received By: Richie Eriacho 10/24/2017 8:00:00 AM

Completed By: Ashley Gallegos 10/24/2017 8:29:50 AM

Reviewed By: *[Signature]*

10/24/17

[Signature]

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0° C? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 10
(2 or >12 unless noted)
Adjusted? yes
Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks: Poured off + filtered from -005C into -005D Added 0.4g

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

Chain-of-Custody Record

Client: Williams Four Corners
Aaron Galor
 Mailing Address: 295 Chipeta Way
Salt Lake City, Utah 84108
 Phone #: 801-581-6746
 email or Fax#: aaron.galor@williams.com
 QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other _____
☐ EOD (Type) Q/F

Turn-Around Time:

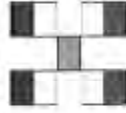
☐ Standard ☒ Rush
 Project Name: BTEX + TPH
Push everything
else's standard
Florence 665 #16A
 Project #: 034016011

Project Manager: LIE: Danny Burns
Williams: Aaron Galor
 Sampler: Josh Adams + David Strickland
 On Ice: ☒ Yes ☐ No
 Sample Temperature: 3-3

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
10-23-17	1030	GW	MW-09	10 to 15 L Wet's bottles	HL1500, H2O2	171DC26
	1035		MW-04			-001
	1215		MW-06			-003
	1155		MW-08			-004
	1310		SB-13			-005
			Trio Bials			-000

Date: 10-23-17 Time: 1532
 Relinquished by: [Signature]
 Date: 10/23/17 Time: 1911
 Relinquished by: [Signature]

Received by: [Signature] Date: 10/23/17 Time: 1532
 Received by: [Signature] Date: 10/24/17 Time: 0800



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX	8270 (Semi-VOA)	Alkalinity / Sulfate	Nitrate	Dissolved Phosphate
		X							X		X	X	X
		X							X		X	X	X
		X							X		X	X	X
		X							X		X	X	X
		X							X		X	X	X

Remarks: cc: aaron.galor@williams.com
dawnise@henv.com
aagere@henv.com
Sample SB-13 needs to be lab filter HNO₃
(unable to do in field) use 500ml unopened
and add
 If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report. pleast



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 01, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1710B24

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/20/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B24

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-17

Project: Florance GCJ 16A

Collection Date: 10/19/2017 10:20:00 AM

Lab ID: 1710B24-001

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 3:37:53 PM	R46553
Sulfate	230	2.5		mg/L	5	10/20/2017 3:37:53 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	198.4	20.00		mg/L CaCO3	1	10/23/2017 6:06:11 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 6:06:11 PM	R46623
Total Alkalinity (as CaCO3)	198.4	20.00		mg/L CaCO3	1	10/23/2017 6:06:11 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.082	0.0020	*	mg/L	1	10/24/2017 8:02:02 PM	B46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	3.1	1.0		mg/L	1	10/23/2017 1:56:41 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 1:56:41 PM	34541
Surr: DNOP	119	77.5-161		%Rec	1	10/23/2017 1:56:41 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/20/2017 3:32:55 PM	G46523
Surr: BFB	95.7	69.3-150		%Rec	1	10/20/2017 3:32:55 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/21/2017 2:47:14 AM	SL46543
Toluene	1.4	1.0		µg/L	1	10/21/2017 2:47:14 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 2:47:14 AM	SL46543
Xylenes, Total	2.2	1.5		µg/L	1	10/21/2017 2:47:14 AM	SL46543
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	10/21/2017 2:47:14 AM	SL46543
Surr: 4-Bromofluorobenzene	90.3	70-130		%Rec	1	10/21/2017 2:47:14 AM	SL46543
Surr: Dibromofluoromethane	117	70-130		%Rec	1	10/21/2017 2:47:14 AM	SL46543
Surr: Toluene-d8	98.2	70-130		%Rec	1	10/21/2017 2:47:14 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B24

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-18

Project: Florance GCJ 16A

Collection Date: 10/19/2017 11:25:00 AM

Lab ID: 1710B24-002

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 4:52:22 PM	R46553
Sulfate	46	2.5		mg/L	5	10/20/2017 4:52:22 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	246.4	20.00		mg/L CaCO3	1	10/23/2017 6:17:28 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 6:17:28 PM	R46623
Total Alkalinity (as CaCO3)	246.4	20.00		mg/L CaCO3	1	10/23/2017 6:17:28 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.31	0.0020	*	mg/L	1	10/25/2017 7:04:27 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.8	1.0		mg/L	1	10/23/2017 11:58:46 AM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 11:58:46 AM	34541
Surr: DNOP	112	77.5-161		%Rec	1	10/23/2017 11:58:46 AM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.11	0.050		mg/L	1	10/20/2017 3:56:18 PM	G46523
Surr: BFB	107	69.3-150		%Rec	1	10/20/2017 3:56:18 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	1.1	1.0		µg/L	1	10/21/2017 4:13:45 AM	SL46543
Toluene	1.5	1.0		µg/L	1	10/21/2017 4:13:45 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 4:13:45 AM	SL46543
Xylenes, Total	1.7	1.5		µg/L	1	10/21/2017 4:13:45 AM	SL46543
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	10/21/2017 4:13:45 AM	SL46543
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	1	10/21/2017 4:13:45 AM	SL46543
Surr: Dibromofluoromethane	116	70-130		%Rec	1	10/21/2017 4:13:45 AM	SL46543
Surr: Toluene-d8	100	70-130		%Rec	1	10/21/2017 4:13:45 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B24

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-14

Project: Florance GCJ 16A

Collection Date: 10/19/2017 12:45:00 PM

Lab ID: 1710B24-003

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 5:17:11 PM	R46553
Sulfate	19	2.5		mg/L	5	10/20/2017 5:17:11 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	376.7	20.00		mg/L CaCO3	1	10/23/2017 6:30:13 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 6:30:13 PM	R46623
Total Alkalinity (as CaCO3)	376.7	20.00		mg/L CaCO3	1	10/23/2017 6:30:13 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.3	0.010	*	mg/L	5	10/25/2017 7:06:19 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	1.8	1.0		mg/L	1	10/23/2017 12:26:31 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 12:26:31 PM	34541
Surr: DNOP	111	77.5-161		%Rec	1	10/23/2017 12:26:31 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.13	0.050		mg/L	1	10/20/2017 4:19:40 PM	G46523
Surr: BFB	147	69.3-150		%Rec	1	10/20/2017 4:19:40 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	12	1.0		µg/L	1	10/21/2017 4:42:42 AM	SL46543
Toluene	ND	1.0		µg/L	1	10/21/2017 4:42:42 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 4:42:42 AM	SL46543
Xylenes, Total	ND	1.5		µg/L	1	10/21/2017 4:42:42 AM	SL46543
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	10/21/2017 4:42:42 AM	SL46543
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/21/2017 4:42:42 AM	SL46543
Surr: Dibromofluoromethane	114	70-130		%Rec	1	10/21/2017 4:42:42 AM	SL46543
Surr: Toluene-d8	101	70-130		%Rec	1	10/21/2017 4:42:42 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B24

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-15

Project: Florance GCJ 16A

Collection Date: 10/19/2017 2:10:00 PM

Lab ID: 1710B24-004

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 5:42:00 PM	R46553
Sulfate	ND	2.5		mg/L	5	10/20/2017 5:42:00 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	634.8	20.00		mg/L CaCO3	1	10/23/2017 6:47:02 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 6:47:02 PM	R46623
Total Alkalinity (as CaCO3)	634.8	20.00		mg/L CaCO3	1	10/23/2017 6:47:02 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	5.6	0.020	*	mg/L	10	10/25/2017 7:13:33 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.2	1.0		mg/L	1	10/23/2017 12:54:18 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 12:54:18 PM	34541
Surr: DNOP	115	77.5-161		%Rec	1	10/23/2017 12:54:18 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	100	2.5		mg/L	50	10/20/2017 4:43:05 PM	G46523
Surr: BFB	107	69.3-150		%Rec	50	10/20/2017 4:43:05 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	12000	500		µg/L	500	10/24/2017 1:25:57 AM	SL46567
Toluene	15000	500		µg/L	500	10/24/2017 1:25:57 AM	SL46567
Ethylbenzene	810	50		µg/L	50	10/21/2017 5:11:35 AM	SL46543
Xylenes, Total	8900	75		µg/L	50	10/21/2017 5:11:35 AM	SL46543
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%Rec	50	10/21/2017 5:11:35 AM	SL46543
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	50	10/21/2017 5:11:35 AM	SL46543
Surr: Dibromofluoromethane	109	70-130		%Rec	50	10/21/2017 5:11:35 AM	SL46543
Surr: Toluene-d8	96.6	70-130		%Rec	50	10/21/2017 5:11:35 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B24

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1710B24-005

Matrix: AQUEOUS

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/20/2017 5:53:32 PM	G46523
Surr: BFB	98.0	69.3-150		%Rec	1	10/20/2017 5:53:32 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/21/2017 5:40:31 AM	SL46543
Toluene	ND	1.0		µg/L	1	10/21/2017 5:40:31 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 5:40:31 AM	SL46543
Xylenes, Total	ND	1.5		µg/L	1	10/21/2017 5:40:31 AM	SL46543
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	10/21/2017 5:40:31 AM	SL46543
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	10/21/2017 5:40:31 AM	SL46543
Surr: Dibromofluoromethane	120	70-130		%Rec	1	10/21/2017 5:40:31 AM	SL46543
Surr: Toluene-d8	94.2	70-130		%Rec	1	10/21/2017 5:40:31 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-B		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	B46621		RunNo:	46621				
Prep Date:			Analysis Date:	10/24/2017		SeqNo:	1484894	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	LLLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: B46621		RunNo: 46621					
Prep Date:			Analysis Date: 10/24/2017		SeqNo: 1484897		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0022	0.0020	0.002000	0	112	50	150			

Sample ID	LCS-B		SampType:	LCS		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID:	B46621		RunNo:	46621				
Prep Date:			Analysis Date:	10/24/2017		SeqNo:	1484907	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	0.49	0.0020	0.5000	0	97.9	85	115				

Sample ID	MB-A		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	A46658		RunNo:	46658				
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1486426	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486428		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	106	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486441		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	95.1	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R46553		RunNo: 46553							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482859		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R46553		RunNo: 46553							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482860		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Sulfate	9.7	0.50	10.00	0	96.9	90	110			

Sample ID 1710B24-001DMS	SampType: ms		TestCode: EPA Method 300.0: Anions							
Client ID: MW-17	Batch ID: R46553		RunNo: 46553							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482877		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	12	0.50	12.50	0	95.2	85.6	113			

Sample ID 1710B24-001DMSD	SampType: msd		TestCode: EPA Method 300.0: Anions							
Client ID: MW-17	Batch ID: R46553		RunNo: 46553							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482878		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	12	0.50	12.50	0	97.6	85.6	113	2.47	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-34541		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 34541		RunNo: 46550					
Prep Date:	10/20/2017		Analysis Date: 10/23/2017		SeqNo: 1482926		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0	122	92.3	135			
Surr: DNOP	0.56		0.5000		112	77.5	161			

Sample ID	MB-34541		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	PBW		Batch ID: 34541		RunNo: 46550					
Prep Date:	10/20/2017		Analysis Date: 10/23/2017		SeqNo: 1482927		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		108	77.5	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID B29	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBW	Batch ID: G46523			RunNo: 46523						
Prep Date:	Analysis Date: 10/20/2017			SeqNo: 1482440			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		99.5	69.3	150			

Sample ID 2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSW	Batch ID: G46523			RunNo: 46523						
Prep Date:	Analysis Date: 10/20/2017			SeqNo: 1482442			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.57	0.050	0.5000	0	113	75.8	123			
Surr: BFB	21		20.00		106	69.3	150			

Sample ID 1710B24-004BMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: MW-15	Batch ID: G46523			RunNo: 46523						
Prep Date:	Analysis Date: 10/20/2017			SeqNo: 1482447			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	130	2.5	25.00	100.4	114	53.2	134			
Surr: BFB	1200		1000		121	69.3	150			

Sample ID 1710B24-004BMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: MW-15	Batch ID: G46523			RunNo: 46523						
Prep Date:	Analysis Date: 10/20/2017			SeqNo: 1482448			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	120	2.5	25.00	100.4	94.4	53.2	134	3.86	20	
Surr: BFB	1200		1000		119	69.3	150	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID rb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch ID: SL46543		RunNo: 46543							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482480		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		87.5	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID 100ng lcsb	SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW	Batch ID: SL46543		RunNo: 46543							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482481		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.0	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID 1710b24-001a ms	SampType: MS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: MW-17	Batch ID: SL46543		RunNo: 46543							
Prep Date:	Analysis Date: 10/21/2017		SeqNo: 1482483		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0.4900	107	70	130			
Toluene	20	1.0	20.00	1.407	90.8	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.2	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID 1710b24-001a msd	SampType: MSD		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: MW-17	Batch ID: SL46543		RunNo: 46543							
Prep Date:	Analysis Date: 10/21/2017		SeqNo: 1482484		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0.4900	106	70	130	1.01	20	
Toluene	20	1.0	20.00	1.407	91.1	70	130	0.374	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1710b24-001a msd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	MW-17	Batch ID:	SL46543	RunNo:	46543					
Prep Date:		Analysis Date:	10/21/2017	SeqNo:	1482484	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.0		10.00		90.5	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	10		10.00		101	70	130	0	0	

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	SL46567	RunNo:	46567					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483379	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46567	RunNo:	46567					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483380	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.4	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.5	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.6	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B24

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1 alk		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485203		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-1 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485204		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81.88	20.00	80.00	0	102	90	110			

Sample ID	mb-2 alk		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485227		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-2 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485228		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.24	20.00	80.00	0	103	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1710B24

RcptNo: 1

Received By: Anne Thorne

10/20/2017 7:15:00 AM

Anne Thorne

Completed By: Anne Thorne

10/20/2017 8:49:45 AM

Anne Thorne

Reviewed By:

ENM

10/20/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 8
Adjusted? No (<2 or >12 unless noted)
Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Williams Four Corners
Aaron Goler
 Mailing Address: 295 Chipeta Way
Salt Lake City, UT 84108
 Phone #: 801-584-6746
 email or Fax#: aaron.goler@williams.com
 QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other _____
☒ EDD (Type) PDF

Turn-Around Time: See comments

☐ Standard ☒ Rush
 Project Name:
Florence GCT 16A
 Project #:

Project Manager:
Williams: A. Goler
LTE: Danny Burns
 Sampler: Eric Carroll
 On loc: ☒ Yes ☐ No
 Sample Temperature: 10

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
10/19/17	10:20	Gw	MW-17	10	HCl H ₂ SO ₄ HNO ₃	1710B24-001
10/19/17	11:25	Gw	MW-18	10		002
10/19/17	12:45	Gw	MW-14	10		003
10/19/17	14:10	Gw	MW-15	10		004
			Top Blank			005

Date	Time	Relinquished by:	Received by:	Date	Time
10/19/17	16:10	<u>[Signature]</u>	<u>[Signature]</u>	10/19/17	16:10
10/19/18	18:54	<u>[Signature]</u>	<u>[Signature]</u>	10/20/17	07:15



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)																
BTEX + MTBE + TPH (Gas only)																
TPH 8015B (GRO / DRO / MRO)	X	X	X	X												
TPH (Method 418.1)																
EDB (Method 504.1)																
PAH's (8310 or 8270 SIMS)																
RCRA 8 Metals																
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)																
8081 Pesticides / 8082 PCB's																
8260B (VOA) BTEX	X	X	X	X												
8270 (Semi-VOA)																
Alkalinity	X	X	X	X												
Sulfate	X	X	X	X												
Nitrate	X	X	X	X												
Dissolved Manganese	X	X	X	X												
Air Bubbles (Y or N)																

Remarks: MW-17 and MW-18 rush BTEX & TPH
results needed by 10/19/17
Remaining 5 day T.A.T.
c.c. results to: aaron@ltenv.com
dburns@ltenv.com



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 01, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1710B75

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/21/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B75

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-11

Project: Florance GCJ 16A

Collection Date: 10/20/2017 2:55:00 PM

Lab ID: 1710B75-001

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	3.4	2.5		mg/L	5	10/24/2017 12:05:31 AM	R46599
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/24/2017 1:19:59 AM	R46599
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	545.0	20.00		mg/L CaCO3	1	10/25/2017 6:49:28 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 6:49:28 PM	R46675
Total Alkalinity (as CaCO3)	545.0	20.00		mg/L CaCO3	1	10/25/2017 6:49:28 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	4.6	0.020	*	mg/L	10	10/27/2017 3:23:24 PM	B46735
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/24/2017 9:40:42 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 9:40:42 AM	34567
Surr: DNOP	89.6	77.5-161		%Rec	1	10/24/2017 9:40:42 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.94	0.050		mg/L	1	10/24/2017 10:03:50 AM	G46592
Surr: BFB	86.1	69.3-150		%Rec	1	10/24/2017 10:03:50 AM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	28	1.0		µg/L	1	10/24/2017 3:05:00 AM	SL46566
Toluene	6.8	1.0		µg/L	1	10/24/2017 3:05:00 AM	SL46566
Ethylbenzene	2.4	1.0		µg/L	1	10/24/2017 3:05:00 AM	SL46566
Xylenes, Total	9.5	1.5		µg/L	1	10/24/2017 3:05:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	10/24/2017 3:05:00 AM	SL46566
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	10/24/2017 3:05:00 AM	SL46566
Surr: Dibromofluoromethane	103	70-130		%Rec	1	10/24/2017 3:05:00 AM	SL46566
Surr: Toluene-d8	102	70-130		%Rec	1	10/24/2017 3:05:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B75

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-15

Project: Florance GCJ 16A

Collection Date: 10/20/2017 4:00:00 PM

Lab ID: 1710B75-002

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	34	2.5		mg/L	5	10/24/2017 12:55:10 AM	R46599
Nitrate+Nitrite as N	1.9	1.0		mg/L	5	10/24/2017 1:32:24 AM	R46599
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	242.6	20.00		mg/L CaCO3	1	10/25/2017 7:11:49 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 7:11:49 PM	R46675
Total Alkalinity (as CaCO3)	242.6	20.00		mg/L CaCO3	1	10/25/2017 7:11:49 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.10	0.0020	*	mg/L	1	10/24/2017 8:32:35 PM	C46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/24/2017 10:02:29 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 10:02:29 AM	34567
Surr: DNOP	86.2	77.5-161		%Rec	1	10/24/2017 10:02:29 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/24/2017 11:14:08 AM	G46592
Surr: BFB	85.1	69.3-150		%Rec	1	10/24/2017 11:14:08 AM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	3.3	1.0		µg/L	1	10/24/2017 3:29:00 AM	SL46566
Toluene	3.5	1.0		µg/L	1	10/24/2017 3:29:00 AM	SL46566
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 3:29:00 AM	SL46566
Xylenes, Total	2.6	1.5		µg/L	1	10/24/2017 3:29:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	10/24/2017 3:29:00 AM	SL46566
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	1	10/24/2017 3:29:00 AM	SL46566
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/24/2017 3:29:00 AM	SL46566
Surr: Toluene-d8	99.2	70-130		%Rec	1	10/24/2017 3:29:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B75

Date Reported: 11/1/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-16

Project: Florance GCJ 16A

Collection Date: 10/20/2017 3:20:00 PM

Lab ID: 1710B75-003

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/24/2017 10:24:27 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 10:24:27 AM	34567
Surr: DNOP	94.5	77.5-161		%Rec	1	10/24/2017 10:24:27 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.21	0.050		mg/L	1	10/24/2017 11:37:25 AM	G46592
Surr: BFB	87.7	69.3-150		%Rec	1	10/24/2017 11:37:25 AM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	20	1.0		µg/L	1	10/24/2017 3:52:00 AM	SL46566
Toluene	18	1.0		µg/L	1	10/24/2017 3:52:00 AM	SL46566
Ethylbenzene	1.4	1.0		µg/L	1	10/24/2017 3:52:00 AM	SL46566
Xylenes, Total	17	1.5		µg/L	1	10/24/2017 3:52:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	1	10/24/2017 3:52:00 AM	SL46566
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	10/24/2017 3:52:00 AM	SL46566
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/24/2017 3:52:00 AM	SL46566
Surr: Toluene-d8	101	70-130		%Rec	1	10/24/2017 3:52:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B75

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB-C	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Batch ID: C46621			RunNo: 46621						
Prep Date:	Analysis Date: 10/24/2017			SeqNo: 1484895			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID LLCS-C	SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	Batch ID: C46621			RunNo: 46621						
Prep Date:	Analysis Date: 10/24/2017			SeqNo: 1484898			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0024	0.0020	0.002000	0	120	50	150			

Sample ID LCS-C	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Batch ID: C46621			RunNo: 46621						
Prep Date:	Analysis Date: 10/24/2017			SeqNo: 1484954			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	96.6	85	115			

Sample ID MB-B	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Batch ID: B46735			RunNo: 46735						
Prep Date:	Analysis Date: 10/27/2017			SeqNo: 1489228			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID LLCS-B	SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	Batch ID: B46735			RunNo: 46735						
Prep Date:	Analysis Date: 10/27/2017			SeqNo: 1489230			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	103	50	150			

Sample ID LCS-B	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Batch ID: B46735			RunNo: 46735						
Prep Date:	Analysis Date: 10/27/2017			SeqNo: 1489232			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.50	0.0020	0.5000	0	100	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B75

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R46599		RunNo: 46599							
Prep Date:	Analysis Date: 10/23/2017		SeqNo: 1484119		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R46599		RunNo: 46599							
Prep Date:	Analysis Date: 10/23/2017		SeqNo: 1484120		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.5	0.50	10.00	0	94.6	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B75

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-34567		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	PBW		Batch ID:	34567		RunNo:	46574			
Prep Date:	10/23/2017		Analysis Date:	10/24/2017		SeqNo:	1483575		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.78		1.000		77.8	77.5	161			

Sample ID	LCS-34567		SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	LCSW		Batch ID:	34567		RunNo:	46574			
Prep Date:	10/23/2017		Analysis Date:	10/24/2017		SeqNo:	1484272		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	92.3	135			
Surr: DNOP	0.57		0.5000		114	77.5	161			

Sample ID	1710B75-001CMS		SampType:	MS		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	MW-11		Batch ID:	34567		RunNo:	46574			
Prep Date:	10/23/2017		Analysis Date:	10/24/2017		SeqNo:	1484789		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0.3868	114	83.3	151			
Surr: DNOP	0.57		0.5000		114	77.5	161			

Sample ID	1710B75-001CMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	MW-11		Batch ID:	34567		RunNo:	46574			
Prep Date:	10/23/2017		Analysis Date:	10/24/2017		SeqNo:	1484790		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0.3868	114	83.3	151	0.125	20	
Surr: DNOP	0.56		0.5000		112	77.5	161	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B75

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484468	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	16		20.00		81.8	69.3	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484469	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	101	75.8	123			
Surr: BFB	18		20.00		92.0	69.3	150			

Sample ID	1710B75-001BMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	MW-11	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484471	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1.3	0.050	0.5000	0.9376	64.4	53.2	134			
Surr: BFB	19		20.00		96.8	69.3	150			

Sample ID	1710B75-001BMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	MW-11	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484472	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1.3	0.050	0.5000	0.9376	64.4	53.2	134	0.0159	20	
Surr: BFB	19		20.00		95.1	69.3	150	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B75

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46566	RunNo:	46566					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483360	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	rb2	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	SL46566	RunNo:	46566					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483361	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.5	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B75

01-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487036	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-1 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487037	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.48	20.00	80.00	0	98.1	90	110			

Sample ID	mb-2 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487060	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-2 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487061	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.68	20.00	80.00	0	103	90	110			

Sample ID	mb-3 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/26/2017		SeqNo:	1487084	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-3 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/26/2017		SeqNo:	1487085	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	83.44	20.00	80.00	0	104	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1710B75

RcptNo: 1

Received By: John Caldwell 10/21/2017 11:15:00 AM

Completed By: Erin Melendrez 10/23/2017 8:16:55 AM

Reviewed By: DDS 10/23/17

John Caldwell

Erin Melendrez

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 4

(☒ or >12 unless noted)

Adjusted? yes

Checked by: SRK

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks: For metals analysis: added 0.4 mL HNO₃ to -001E for acceptable pH. Held for 24 hrs prior to analysis. 10/23/17 @ 0905 SRK

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	Good	Not Present			

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

Remarks:

[illegible]

If necessary, samples submitted to Hal Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly indicated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 02, 2017

Aaron Galer

Williams Four Corners
295 Chipeta Way
Salt Lake City, UT 84108
TEL: (801) 584-6746
FAX

RE: Florance GCJ 16A

OrderNo.: 1710B76

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/21/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-19

Project: Florance GCJ 16A

Collection Date: 10/20/2017 10:30:00 AM

Lab ID: 1710B76-001

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/25/2017 12:29:59 AM	R46586
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/25/2017 4:13:26 AM	R46586
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	543.9	20.00		mg/L CaCO3	1	10/25/2017 7:24:25 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 7:24:25 PM	R46675
Total Alkalinity (as CaCO3)	543.9	20.00		mg/L CaCO3	1	10/25/2017 7:24:25 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.3	0.010	*	mg/L	5	10/31/2017 4:03:01 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	4.0	1.0		mg/L	1	10/24/2017 10:46:20 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 10:46:20 AM	34567
Surr: DNOP	112	77.5-161		%Rec	1	10/24/2017 10:46:20 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	46	10		mg/L	200	10/24/2017 12:47:13 PM	G46592
Surr: BFB	86.3	69.3-150		%Rec	200	10/24/2017 12:47:13 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	10000	200		µg/L	200	10/24/2017 4:16:00 AM	SL46566
Toluene	6100	200		µg/L	200	10/24/2017 4:16:00 AM	SL46566
Ethylbenzene	400	200		µg/L	200	10/24/2017 4:16:00 AM	SL46566
Xylenes, Total	3500	300		µg/L	200	10/24/2017 4:16:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	200	10/24/2017 4:16:00 AM	SL46566
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	200	10/24/2017 4:16:00 AM	SL46566
Surr: Dibromofluoromethane	103	70-130		%Rec	200	10/24/2017 4:16:00 AM	SL46566
Surr: Toluene-d8	101	70-130		%Rec	200	10/24/2017 4:16:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-13

Project: Florance GCJ 16A

Collection Date: 10/20/2017 12:40:00 PM

Lab ID: 1710B76-002

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/25/2017 12:54:50 AM	R46586
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/25/2017 4:25:50 AM	R46586
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	443.6	20.00		mg/L CaCO3	1	10/25/2017 7:46:21 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 7:46:21 PM	R46675
Total Alkalinity (as CaCO3)	443.6	20.00		mg/L CaCO3	1	10/25/2017 7:46:21 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	5.9	0.020	*	mg/L	10	10/31/2017 4:07:25 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.8	1.0		mg/L	1	10/24/2017 11:08:19 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 11:08:19 AM	34567
Surr: DNOP	105	77.5-161		%Rec	1	10/24/2017 11:08:19 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	9.5	1.0		mg/L	20	10/24/2017 1:10:29 PM	G46592
Surr: BFB	92.3	69.3-150		%Rec	20	10/24/2017 1:10:29 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	1300	50		µg/L	50	10/24/2017 10:10:00 AM	SL46566
Toluene	1700	50		µg/L	50	10/24/2017 10:10:00 AM	SL46566
Ethylbenzene	150	50		µg/L	50	10/24/2017 10:10:00 AM	SL46566
Xylenes, Total	1200	75		µg/L	50	10/24/2017 10:10:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	50	10/24/2017 10:10:00 AM	SL46566
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	50	10/24/2017 10:10:00 AM	SL46566
Surr: Dibromofluoromethane	102	70-130		%Rec	50	10/24/2017 10:10:00 AM	SL46566
Surr: Toluene-d8	101	70-130		%Rec	50	10/24/2017 10:10:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-12

Project: Florance GCJ 16A

Collection Date: 10/20/2017 11:00:00 AM

Lab ID: 1710B76-003

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/25/2017 1:19:40 AM	R46586
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/25/2017 4:38:15 AM	R46586
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	623.0	20.00		mg/L CaCO3	1	10/25/2017 8:05:45 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 8:05:45 PM	R46675
Total Alkalinity (as CaCO3)	623.0	20.00		mg/L CaCO3	1	10/25/2017 8:05:45 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	4.3	0.010	*	mg/L	5	10/31/2017 4:08:54 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.9	1.0		mg/L	1	10/24/2017 11:30:19 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 11:30:19 AM	34567
Surr: DNOP	116	77.5-161		%Rec	1	10/24/2017 11:30:19 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	59	10		mg/L	200	10/24/2017 1:33:44 PM	G46592
Surr: BFB	86.3	69.3-150		%Rec	200	10/24/2017 1:33:44 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	11000	200		µg/L	200	10/24/2017 10:34:00 AM	SL46566
Toluene	9900	200		µg/L	200	10/24/2017 10:34:00 AM	SL46566
Ethylbenzene	310	200		µg/L	200	10/24/2017 10:34:00 AM	SL46566
Xylenes, Total	4400	300		µg/L	200	10/24/2017 10:34:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	200	10/24/2017 10:34:00 AM	SL46566
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	200	10/24/2017 10:34:00 AM	SL46566
Surr: Dibromofluoromethane	100	70-130		%Rec	200	10/24/2017 10:34:00 AM	SL46566
Surr: Toluene-d8	99.9	70-130		%Rec	200	10/24/2017 10:34:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-01

Project: Florance GCJ 16A

Collection Date: 10/20/2017 12:30:00 PM

Lab ID: 1710B76-004

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/25/2017 1:44:30 AM	R46586
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/25/2017 5:27:55 AM	R46586
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	592.0	20.00		mg/L CaCO3	1	10/25/2017 8:31:10 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 8:31:10 PM	R46675
Total Alkalinity (as CaCO3)	592.0	20.00		mg/L CaCO3	1	10/25/2017 8:31:10 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	3.4	0.010	*	mg/L	5	10/31/2017 4:10:22 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.1	1.0		mg/L	1	10/24/2017 11:52:26 AM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 11:52:26 AM	34567
Surr: DNOP	118	77.5-161		%Rec	1	10/24/2017 11:52:26 AM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	56	10		mg/L	200	10/24/2017 1:56:58 PM	G46592
Surr: BFB	86.0	69.3-150		%Rec	200	10/24/2017 1:56:58 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	15000	200		µg/L	200	10/24/2017 5:27:00 AM	SL46566
Toluene	2600	200		µg/L	200	10/24/2017 5:27:00 AM	SL46566
Ethylbenzene	470	200		µg/L	200	10/24/2017 5:27:00 AM	SL46566
Xylenes, Total	4600	300		µg/L	200	10/24/2017 5:27:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	200	10/24/2017 5:27:00 AM	SL46566
Surr: 4-Bromofluorobenzene	98.5	70-130		%Rec	200	10/24/2017 5:27:00 AM	SL46566
Surr: Dibromofluoromethane	101	70-130		%Rec	200	10/24/2017 5:27:00 AM	SL46566
Surr: Toluene-d8	100	70-130		%Rec	200	10/24/2017 5:27:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-06

Project: Florance GCJ 16A

Collection Date: 10/20/2017 1:50:00 PM

Lab ID: 1710B76-005

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/25/2017 2:09:18 AM	R46586
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/25/2017 5:40:19 AM	R46586
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	664.3	20.00		mg/L CaCO3	1	10/25/2017 8:55:51 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 8:55:51 PM	R46675
Total Alkalinity (as CaCO3)	664.3	20.00		mg/L CaCO3	1	10/25/2017 8:55:51 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	11	0.040	*	mg/L	20	10/31/2017 4:38:00 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.9	1.0		mg/L	1	10/24/2017 12:14:20 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 12:14:20 PM	34567
Surr: DNOP	117	77.5-161		%Rec	1	10/24/2017 12:14:20 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	5.6	1.0		mg/L	20	10/24/2017 2:20:14 PM	G46592
Surr: BFB	83.4	69.3-150		%Rec	20	10/24/2017 2:20:14 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	810	50		µg/L	50	10/24/2017 10:57:00 AM	SL46566
Toluene	110	5.0		µg/L	5	10/24/2017 5:51:00 AM	SL46566
Ethylbenzene	27	5.0		µg/L	5	10/24/2017 5:51:00 AM	SL46566
Xylenes, Total	150	7.5		µg/L	5	10/24/2017 5:51:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	5	10/24/2017 5:51:00 AM	SL46566
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	5	10/24/2017 5:51:00 AM	SL46566
Surr: Dibromofluoromethane	104	70-130		%Rec	5	10/24/2017 5:51:00 AM	SL46566
Surr: Toluene-d8	101	70-130		%Rec	5	10/24/2017 5:51:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-07

Project: Florance GCJ 16A

Collection Date: 10/20/2017 2:00:00 PM

Lab ID: 1710B76-006

Matrix: AQUEOUS

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/25/2017 2:58:57 AM	R46586
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/25/2017 5:52:43 AM	R46586
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	580.6	20.00		mg/L CaCO3	1	10/25/2017 9:21:56 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 9:21:56 PM	R46675
Total Alkalinity (as CaCO3)	580.6	20.00		mg/L CaCO3	1	10/25/2017 9:21:56 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.0	0.010	*	mg/L	5	10/31/2017 4:13:24 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	10	1.0		mg/L	1	10/24/2017 12:36:34 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 12:36:34 PM	34567
Surr: DNOP	124	77.5-161		%Rec	1	10/24/2017 12:36:34 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	60	25		mg/L	500	10/24/2017 2:43:30 PM	G46592
Surr: BFB	85.1	69.3-150		%Rec	500	10/24/2017 2:43:30 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	11000	500		µg/L	500	10/24/2017 6:14:00 AM	SL46566
Toluene	12000	500		µg/L	500	10/24/2017 6:14:00 AM	SL46566
Ethylbenzene	ND	500		µg/L	500	10/24/2017 6:14:00 AM	SL46566
Xylenes, Total	5000	750		µg/L	500	10/24/2017 6:14:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	500	10/24/2017 6:14:00 AM	SL46566
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	500	10/24/2017 6:14:00 AM	SL46566
Surr: Dibromofluoromethane	101	70-130		%Rec	500	10/24/2017 6:14:00 AM	SL46566
Surr: Toluene-d8	101	70-130		%Rec	500	10/24/2017 6:14:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B76

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1710B76-007

Matrix: TRIP BLANK

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/24/2017 3:06:49 PM	G46592
Surr: BFB	82.3	69.3-150		%Rec	1	10/24/2017 3:06:49 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/24/2017 7:25:00 AM	SL46566
Toluene	ND	1.0		µg/L	1	10/24/2017 7:25:00 AM	SL46566
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 7:25:00 AM	SL46566
Xylenes, Total	ND	1.5		µg/L	1	10/24/2017 7:25:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	99.9	70-130		%Rec	1	10/24/2017 7:25:00 AM	SL46566
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	10/24/2017 7:25:00 AM	SL46566
Surr: Dibromofluoromethane	101	70-130		%Rec	1	10/24/2017 7:25:00 AM	SL46566
Surr: Toluene-d8	99.7	70-130		%Rec	1	10/24/2017 7:25:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-A	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	A46782	RunNo:	46782					
Prep Date:		Analysis Date:	10/31/2017	SeqNo:	1491403	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LLCS-A	SampType:	LCSLL	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	A46782	RunNo:	46782					
Prep Date:		Analysis Date:	10/31/2017	SeqNo:	1491404	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020	0.002000	0	97.5	50	150			

Sample ID	LCS-A	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	A46782	RunNo:	46782					
Prep Date:		Analysis Date:	10/31/2017	SeqNo:	1491405	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.49	0.0020	0.5000	0	97.9	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R46586		RunNo: 46586							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1485125		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R46586		RunNo: 46586							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1485126		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.5	0.50	10.00	0	95.5	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.4	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-34567	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	PBW	Batch ID: 34567			RunNo: 46574					
Prep Date:	10/23/2017	Analysis Date: 10/24/2017			SeqNo: 1483575		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.78		1.000		77.8	77.5	161			

Sample ID	LCS-34567		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 34567		RunNo: 46574					
Prep Date:	10/23/2017		Analysis Date: 10/24/2017		SeqNo: 1484272		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	92.3	135			
Surr: DNOP	0.57		0.5000		114	77.5	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484468	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	16		20.00		81.8	69.3	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484469	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	101	75.8	123			
Surr: BFB	18		20.00		92.0	69.3	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46566	RunNo:	46566					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483360	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	rb2	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	SL46566	RunNo:	46566					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483361	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.5	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID	1710b76-006ams	SampType:	MS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	SB-07	Batch ID:	SL46566	RunNo:	46566					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483371	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19000	500	10000	11430	80.1	70	130			
Toluene	20000	500	10000	12300	76.6	70	130			
Surr: 1,2-Dichloroethane-d4	5100		5000		102	70	130			
Surr: 4-Bromofluorobenzene	4900		5000		98.0	70	130			
Surr: Dibromofluoromethane	5100		5000		102	70	130			
Surr: Toluene-d8	5000		5000		99.5	70	130			

Sample ID	1710b76-006amsd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	SB-07	Batch ID:	SL46566	RunNo:	46566					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483372	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19000	500	10000	11430	71.7	70	130	4.40	20	
Toluene	20000	500	10000	12300	73.0	70	130	1.85	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	1710b76-006amsd	SampType:	MSD	TestCode:	EPA Method 8260: Volatiles Short List						
Client ID:	SB-07	Batch ID:	SL46566	RunNo:	46566						
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1483372	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	4800		5000		96.8	70	130	0	0		
Surr: 4-Bromofluorobenzene	5000		5000		99.7	70	130	0	0		
Surr: Dibromofluoromethane	5000		5000		101	70	130	0	0		
Surr: Toluene-d8	5000		5000		101	70	130	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B76

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487036	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-1 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487037	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.48	20.00	80.00	0	98.1	90	110			

Sample ID	mb-2 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487060	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-2 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487061	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.68	20.00	80.00	0	103	90	110			

Sample ID	mb-3 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/26/2017		SeqNo:	1487084	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-3 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/26/2017		SeqNo:	1487085	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	83.44	20.00	80.00	0	104	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1710B76

ReptNo: 1

Received By: John Caldwell 10/21/2017 11:15:00 AM

Completed By: Erin Melendrez 10/23/2017 8:36:11 AM

Reviewed By: Sizer 10/23/17

John Caldwell

Erin Melendrez

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

12
(2 or >12 unless noted)

Adjusted?

yes

Checked by:

DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

Client Instructions:

17. Additional remarks: Added 0.4 mL H₂SO₄ to -005D 10/23 DDS

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	Good	Not Present			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 02, 2017

Aaron Galer
Williams Four Corners
295 Chipeta Way
Salt Lake City, UT 84108
TEL: (505) 632-4442
FAX

RE: Florance GCJ 16A

OrderNo.: 1710B77

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/23/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-11

Project: Florance GCJ 16A

Collection Date: 10/21/2017 12:40:00 PM

Lab ID: 1710B77-002

Matrix: AQUEOUS

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	5.1	2.5		mg/L	5	10/23/2017 6:41:30 PM	R46581
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/23/2017 9:10:23 PM	R46581
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	513.8	20.00		mg/L CaCO3	1	10/25/2017 9:46:33 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 9:46:33 PM	R46675
Total Alkalinity (as CaCO3)	513.8	20.00		mg/L CaCO3	1	10/25/2017 9:46:33 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.8	0.010	*	mg/L	5	10/25/2017 7:17:04 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	3.9	1.0		mg/L	1	10/24/2017 12:58:32 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 12:58:32 PM	34567
Surr: DNOP	113	77.5-161		%Rec	1	10/24/2017 12:58:32 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	38	5.0		mg/L	100	10/24/2017 3:30:04 PM	G46592
Surr: BFB	87.5	69.3-150		%Rec	100	10/24/2017 3:30:04 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	5200	500		µg/L	500	10/24/2017 7:48:00 AM	SL46566
Toluene	6100	500		µg/L	500	10/24/2017 7:48:00 AM	SL46566
Ethylbenzene	ND	500		µg/L	500	10/24/2017 7:48:00 AM	SL46566
Xylenes, Total	3400	750		µg/L	500	10/24/2017 7:48:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	500	10/24/2017 7:48:00 AM	SL46566
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	500	10/24/2017 7:48:00 AM	SL46566
Surr: Dibromofluoromethane	103	70-130		%Rec	500	10/24/2017 7:48:00 AM	SL46566
Surr: Toluene-d8	98.6	70-130		%Rec	500	10/24/2017 7:48:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-3R

Project: Florance GCJ 16A

Collection Date: 10/21/2017 11:30:00 AM

Lab ID: 1710B77-003

Matrix: AQUEOUS

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/23/2017 7:06:18 PM	R46581
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/23/2017 9:22:48 PM	R46581
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	517.4	20.00		mg/L CaCO3	1	10/25/2017 10:07:25 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 10:07:25 PM	R46675
Total Alkalinity (as CaCO3)	517.4	20.00		mg/L CaCO3	1	10/25/2017 10:07:25 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.9	0.010	*	mg/L	5	10/25/2017 7:18:45 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	5.8	1.0		mg/L	1	10/24/2017 1:20:54 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 1:20:54 PM	34567
Surr: DNOP	122	77.5-161		%Rec	1	10/24/2017 1:20:54 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	84	10		mg/L	200	10/24/2017 3:53:20 PM	G46592
Surr: BFB	88.3	69.3-150		%Rec	200	10/24/2017 3:53:20 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	11000	200		µg/L	200	10/24/2017 8:12:00 AM	SL46566
Toluene	11000	200		µg/L	200	10/24/2017 8:12:00 AM	SL46566
Ethylbenzene	460	200		µg/L	200	10/24/2017 8:12:00 AM	SL46566
Xylenes, Total	5000	300		µg/L	200	10/24/2017 8:12:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	10/24/2017 8:12:00 AM	SL46566
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	200	10/24/2017 8:12:00 AM	SL46566
Surr: Dibromofluoromethane	101	70-130		%Rec	200	10/24/2017 8:12:00 AM	SL46566
Surr: Toluene-d8	100	70-130		%Rec	200	10/24/2017 8:12:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-09

Project: Florance GCJ 16A

Collection Date: 10/21/2017 1:00:00 PM

Lab ID: 1710B77-004

Matrix: AQUEOUS

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	ND	2.5		mg/L	5	10/23/2017 7:31:07 PM	R46581
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/23/2017 9:35:13 PM	R46581
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	511.0	20.00		mg/L CaCO3	1	10/25/2017 10:29:16 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 10:29:16 PM	R46675
Total Alkalinity (as CaCO3)	511.0	20.00		mg/L CaCO3	1	10/25/2017 10:29:16 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.97	0.0020	*	mg/L	1	10/24/2017 8:58:46 PM	C46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	8.0	1.0		mg/L	1	10/24/2017 1:42:53 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 1:42:53 PM	34567
Surr: DNOP	128	77.5-161		%Rec	1	10/24/2017 1:42:53 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	52	10		mg/L	200	10/24/2017 4:16:41 PM	G46592
Surr: BFB	84.0	69.3-150		%Rec	200	10/24/2017 4:16:41 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	11000	200		µg/L	200	10/24/2017 8:36:00 AM	SL46566
Toluene	12000	200		µg/L	200	10/24/2017 8:36:00 AM	SL46566
Ethylbenzene	370	200		µg/L	200	10/24/2017 8:36:00 AM	SL46566
Xylenes, Total	5100	300		µg/L	200	10/24/2017 8:36:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	10/24/2017 8:36:00 AM	SL46566
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	200	10/24/2017 8:36:00 AM	SL46566
Surr: Dibromofluoromethane	101	70-130		%Rec	200	10/24/2017 8:36:00 AM	SL46566
Surr: Toluene-d8	102	70-130		%Rec	200	10/24/2017 8:36:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-05

Project: Florance GCJ 16A

Collection Date: 10/21/2017 11:10:00 AM

Lab ID: 1710B77-005

Matrix: AQUEOUS

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	29	1.0		mg/L	1	10/24/2017 2:05:17 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 2:05:17 PM	34567
Surr: DNOP	132	77.5-161		%Rec	1	10/24/2017 2:05:17 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	72	10		mg/L	200	10/24/2017 4:39:59 PM	G46592
Surr: BFB	83.5	69.3-150		%Rec	200	10/24/2017 4:39:59 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	15000	200		µg/L	200	10/24/2017 8:59:00 AM	SL46566
Toluene	20000	200		µg/L	200	10/24/2017 8:59:00 AM	SL46566
Ethylbenzene	350	200		µg/L	200	10/24/2017 8:59:00 AM	SL46566
Xylenes, Total	4100	300		µg/L	200	10/24/2017 8:59:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	200	10/24/2017 8:59:00 AM	SL46566
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	200	10/24/2017 8:59:00 AM	SL46566
Surr: Dibromofluoromethane	99.4	70-130		%Rec	200	10/24/2017 8:59:00 AM	SL46566
Surr: Toluene-d8	100	70-130		%Rec	200	10/24/2017 8:59:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-08

Project: Florance GCJ 16A

Collection Date: 10/21/2017 2:10:00 PM

Lab ID: 1710B77-006

Matrix: AQUEOUS

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	5.8	2.5		mg/L	5	10/23/2017 7:55:56 PM	R46581
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/23/2017 9:47:38 PM	R46581
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	460.9	20.00		mg/L CaCO3	1	10/25/2017 10:51:02 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 10:51:02 PM	R46675
Total Alkalinity (as CaCO3)	460.9	20.00		mg/L CaCO3	1	10/25/2017 10:51:02 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.4	0.010	*	mg/L	5	10/31/2017 4:14:59 PM	A46782
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	6.3	1.0		mg/L	1	10/24/2017 2:27:16 PM	34567
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/24/2017 2:27:16 PM	34567
Surr: DNOP	130	77.5-161		%Rec	1	10/24/2017 2:27:16 PM	34567
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	64	10		mg/L	200	10/24/2017 5:03:18 PM	G46592
Surr: BFB	87.4	69.3-150		%Rec	200	10/24/2017 5:03:18 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	9500	200		µg/L	200	10/24/2017 9:23:00 AM	SL46566
Toluene	6900	200		µg/L	200	10/24/2017 9:23:00 AM	SL46566
Ethylbenzene	370	200		µg/L	200	10/24/2017 9:23:00 AM	SL46566
Xylenes, Total	4500	300		µg/L	200	10/24/2017 9:23:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	10/24/2017 9:23:00 AM	SL46566
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	200	10/24/2017 9:23:00 AM	SL46566
Surr: Dibromofluoromethane	100	70-130		%Rec	200	10/24/2017 9:23:00 AM	SL46566
Surr: Toluene-d8	102	70-130		%Rec	200	10/24/2017 9:23:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1710B77-007

Matrix: TRIP BLANK

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/24/2017 5:26:32 PM	G46592
Surr: BFB	82.9	69.3-150		%Rec	1	10/24/2017 5:26:32 PM	G46592
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	1.0		µg/L	1	10/24/2017 9:46:00 AM	SL46566
Toluene	ND	1.0		µg/L	1	10/24/2017 9:46:00 AM	SL46566
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 9:46:00 AM	SL46566
Xylenes, Total	ND	1.5		µg/L	1	10/24/2017 9:46:00 AM	SL46566
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	10/24/2017 9:46:00 AM	SL46566
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	10/24/2017 9:46:00 AM	SL46566
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/24/2017 9:46:00 AM	SL46566
Surr: Toluene-d8	100	70-130		%Rec	1	10/24/2017 9:46:00 AM	SL46566

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B77

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: SB-16

Project: Florance GCJ 16A

Collection Date: 10/21/2017 10:20:00 AM

Lab ID: 1710B77-008

Matrix: AQUEOUS

Received Date: 10/23/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	9.3	0.50		mg/L	1	10/23/2017 8:20:45 PM	R46581
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/23/2017 10:00:03 PM	R46581
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	439.9	20.00		mg/L CaCO3	1	10/25/2017 11:11:16 PM	R46675
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/25/2017 11:11:16 PM	R46675
Total Alkalinity (as CaCO3)	439.9	20.00		mg/L CaCO3	1	10/25/2017 11:11:16 PM	R46675
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	1.2	0.010	*	mg/L	5	10/30/2017 6:19:52 PM	A46766

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB-C	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: C46621		RunNo: 46621							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1484895		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID LLCS-C	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: C46621		RunNo: 46621							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1484898		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0024	0.0020	0.002000	0	120	50	150			

Sample ID LCS-C	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: C46621		RunNo: 46621							
Prep Date:	Analysis Date: 10/24/2017		SeqNo: 1484954		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	96.6	85	115			

Sample ID MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A46658		RunNo: 46658							
Prep Date:	Analysis Date: 10/25/2017		SeqNo: 1486426		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID LLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A46658		RunNo: 46658							
Prep Date:	Analysis Date: 10/25/2017		SeqNo: 1486428		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	106	50	150			

Sample ID LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A46658		RunNo: 46658							
Prep Date:	Analysis Date: 10/25/2017		SeqNo: 1486441		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	95.1	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: A46766		RunNo: 46766					
Prep Date:			Analysis Date: 10/30/2017		SeqNo: 1491153		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A46766		RunNo: 46766					
Prep Date:			Analysis Date: 10/30/2017		SeqNo: 1491154		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0022	0.0020	0.002000	0	112	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A46766		RunNo: 46766					
Prep Date:			Analysis Date: 10/30/2017		SeqNo: 1491155		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.51	0.0020	0.5000	0	102	85	115			

Sample ID	MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: A46782		RunNo: 46782					
Prep Date:			Analysis Date: 10/31/2017		SeqNo: 1491403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A46782		RunNo: 46782					
Prep Date:			Analysis Date: 10/31/2017		SeqNo: 1491404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020	0.002000	0	97.5	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A46782		RunNo: 46782					
Prep Date:			Analysis Date: 10/31/2017		SeqNo: 1491405		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.49	0.0020	0.5000	0	97.9	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk			TestCode: EPA Method 300.0: Anions						
Client ID: PBW	Batch ID: R46581			RunNo: 46581						
Prep Date:	Analysis Date: 10/23/2017			SeqNo: 1483642		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs			TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch ID: R46581			RunNo: 46581						
Prep Date:	Analysis Date: 10/23/2017			SeqNo: 1483643		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.0	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-34567		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range				
Client ID:	PBW		Batch ID:	34567		RunNo:	46574				
Prep Date:	10/23/2017		Analysis Date:	10/24/2017		SeqNo:	1483575		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									
Surr: DNOP	0.78		1.000		77.8	77.5	161				

Sample ID	LCS-34567		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 34567		RunNo: 46574					
Prep Date:	10/23/2017		Analysis Date: 10/24/2017		SeqNo: 1484272		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	92.3	135			
Surr: DNOP	0.57		0.5000		114	77.5	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484468	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	16		20.00		81.8	69.3	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	G46592	RunNo:	46592					
Prep Date:		Analysis Date:	10/24/2017	SeqNo:	1484469	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	101	75.8	123			
Surr: BFB	18		20.00		92.0	69.3	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs2		SampType: LCS			TestCode: EPA Method 8260: Volatiles Short List				
Client ID:	LCSW		Batch ID: SL46566			RunNo: 46566				
Prep Date:	Analysis Date: 10/24/2017			SeqNo: 1483360		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	rb2	SampType: MBLK			TestCode: EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID: SL46566			RunNo: 46566					
Prep Date:		Analysis Date: 10/24/2017			SeqNo: 1483361		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.5	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B77

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487036	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-1 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487037	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.48	20.00	80.00	0	98.1	90	110			

Sample ID	mb-2 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487060	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-2 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/25/2017		SeqNo:	1487061	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.68	20.00	80.00	0	103	90	110			

Sample ID	mb-3 alk		SampType:	MBLK		TestCode:	SM2320B: Alkalinity			
Client ID:	PBW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/26/2017		SeqNo:	1487084	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-3 alk		SampType:	LCS		TestCode:	SM2320B: Alkalinity			
Client ID:	LCSW		Batch ID:	R46675		RunNo:	46675			
Prep Date:			Analysis Date:	10/26/2017		SeqNo:	1487085	Units:	mg/L CaCO3	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	83.44	20.00	80.00	0	104	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Sample Log-In Check List

Client Name: WILLIAMS FOUR CORN

Work Order Number: 1710B77

RcptNo: 1

Received By: Richie Eriacho 10/23/2017 8:00:00 AM

Completed By: Erin Melendrez 10/23/2017 8:48:07 AM

Reviewed By: *[Signature]*

10/23/17

[Signature]

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 10
(2 or >12 unless noted)
Adjusted? no
Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 02, 2017

Aaron Galer

Williams Four Corners

188 CR 4900

Bloomfield, NM 87413

TEL: (505) 632-4442

FAX

RE: Florance GCJ 16A

OrderNo.: 1710B26

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/20/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B26

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-21

Project: Florance GCJ 16A

Collection Date: 10/18/2017 10:30:00 AM

Lab ID: 1710B26-001

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	19	2.5		mg/L	5	10/20/2017 1:46:11 PM	R46553
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/20/2017 3:00:38 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	479.1	20.00		mg/L CaCO3	1	10/23/2017 7:13:46 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 7:13:46 PM	R46623
Total Alkalinity (as CaCO3)	479.1	20.00		mg/L CaCO3	1	10/23/2017 7:13:46 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	2.4	0.010	*	mg/L	5	10/25/2017 7:15:12 PM	A46658
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	2.5	1.0		mg/L	1	10/23/2017 2:24:30 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 2:24:30 PM	34541
Surr: DNOP	113	77.5-161		%Rec	1	10/23/2017 2:24:30 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	7.8	0.25		mg/L	5	10/20/2017 7:50:25 PM	G46523
Surr: BFB	128	69.3-150		%Rec	5	10/20/2017 7:50:25 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	930	50		µg/L	50	10/24/2017 1:54:36 AM	SL46567
Toluene	340	5.0		µg/L	5	10/21/2017 6:08:58 AM	SL46543
Ethylbenzene	180	5.0		µg/L	5	10/21/2017 6:08:58 AM	SL46543
Xylenes, Total	2000	75		µg/L	50	10/24/2017 1:54:36 AM	SL46567
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	5	10/21/2017 6:08:58 AM	SL46543
Surr: 4-Bromofluorobenzene	90.5	70-130		%Rec	5	10/21/2017 6:08:58 AM	SL46543
Surr: Dibromofluoromethane	104	70-130		%Rec	5	10/21/2017 6:08:58 AM	SL46543
Surr: Toluene-d8	93.1	70-130		%Rec	5	10/21/2017 6:08:58 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B26

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-23

Project: Florance GCJ 16A

Collection Date: 10/18/2017 11:35:00 AM

Lab ID: 1710B26-002

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Sulfate	25	2.5		mg/L	5	10/20/2017 2:35:49 PM	R46553
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/20/2017 3:13:03 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	593.4	20.00		mg/L CaCO3	1	10/23/2017 7:34:43 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 7:34:43 PM	R46623
Total Alkalinity (as CaCO3)	593.4	20.00		mg/L CaCO3	1	10/23/2017 7:34:43 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.78	0.0020	*	mg/L	1	10/24/2017 8:11:11 PM	B46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	1.6	1.0		mg/L	1	10/23/2017 2:52:32 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 2:52:32 PM	34541
Surr: DNOP	118	77.5-161		%Rec	1	10/23/2017 2:52:32 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.25		mg/L	5	10/20/2017 8:13:52 PM	G46523
Surr: BFB	96.2	69.3-150		%Rec	5	10/20/2017 8:13:52 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	4.6	1.0		µg/L	1	10/24/2017 2:23:20 AM	SL46567
Toluene	ND	1.0		µg/L	1	10/24/2017 2:23:20 AM	SL46567
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 2:23:20 AM	SL46567
Xylenes, Total	1.7	1.5		µg/L	1	10/24/2017 2:23:20 AM	SL46567
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	10/24/2017 2:23:20 AM	SL46567
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	10/24/2017 2:23:20 AM	SL46567
Surr: Dibromofluoromethane	108	70-130		%Rec	1	10/24/2017 2:23:20 AM	SL46567
Surr: Toluene-d8	97.2	70-130		%Rec	1	10/24/2017 2:23:20 AM	SL46567

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B26

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-22

Project: Florance GCJ 16A

Collection Date: 10/18/2017 12:40:00 PM

Lab ID: 1710B26-003

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 12:31:45 PM	R46553
Sulfate	73	2.5		mg/L	5	10/20/2017 12:31:45 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	417.0	20.00		mg/L CaCO3	1	10/23/2017 7:58:17 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 7:58:17 PM	R46623
Total Alkalinity (as CaCO3)	417.0	20.00		mg/L CaCO3	1	10/23/2017 7:58:17 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.26	0.0020	*	mg/L	1	10/24/2017 8:21:27 PM	B46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/23/2017 3:20:33 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 3:20:33 PM	34541
Surr: DNOP	116	77.5-161		%Rec	1	10/23/2017 3:20:33 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.14	0.050		mg/L	1	10/20/2017 8:37:12 PM	G46523
Surr: BFB	95.4	69.3-150		%Rec	1	10/20/2017 8:37:12 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	6.1	1.0		µg/L	1	10/21/2017 7:05:49 AM	SL46543
Toluene	5.5	1.0		µg/L	1	10/21/2017 7:05:49 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 7:05:49 AM	SL46543
Xylenes, Total	6.4	1.5		µg/L	1	10/21/2017 7:05:49 AM	SL46543
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	10/21/2017 7:05:49 AM	SL46543
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	10/21/2017 7:05:49 AM	SL46543
Surr: Dibromofluoromethane	114	70-130		%Rec	1	10/21/2017 7:05:49 AM	SL46543
Surr: Toluene-d8	95.4	70-130		%Rec	1	10/21/2017 7:05:49 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B26

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-20

Project: Florance GCJ 16A

Collection Date: 10/18/2017 1:41:00 PM

Lab ID: 1710B26-004

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 12:56:33 PM	R46553
Sulfate	80	2.5		mg/L	5	10/20/2017 12:56:33 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	151.0	20.00		mg/L CaCO3	1	10/23/2017 8:16:27 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 8:16:27 PM	R46623
Total Alkalinity (as CaCO3)	151.0	20.00		mg/L CaCO3	1	10/23/2017 8:16:27 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.094	0.0020	*	mg/L	1	10/24/2017 8:23:19 PM	C46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/23/2017 3:48:36 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 3:48:36 PM	34541
Surr: DNOP	106	77.5-161		%Rec	1	10/23/2017 3:48:36 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/20/2017 9:00:41 PM	G46523
Surr: BFB	91.2	69.3-150		%Rec	1	10/20/2017 9:00:41 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/21/2017 7:34:10 AM	SL46543
Toluene	ND	1.0		µg/L	1	10/21/2017 7:34:10 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 7:34:10 AM	SL46543
Xylenes, Total	ND	1.5		µg/L	1	10/21/2017 7:34:10 AM	SL46543
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	10/21/2017 7:34:10 AM	SL46543
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	10/21/2017 7:34:10 AM	SL46543
Surr: Dibromofluoromethane	117	70-130		%Rec	1	10/21/2017 7:34:10 AM	SL46543
Surr: Toluene-d8	94.9	70-130		%Rec	1	10/21/2017 7:34:10 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B26

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: MW-19

Project: Florance GCJ 16A

Collection Date: 10/18/2017 3:05:00 PM

Lab ID: 1710B26-005

Matrix: GROUNDWA

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/20/2017 1:21:23 PM	R46553
Sulfate	16	2.5		mg/L	5	10/20/2017 1:21:23 PM	R46553
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	250.7	20.00		mg/L CaCO3	1	10/23/2017 8:26:47 PM	R46623
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/23/2017 8:26:47 PM	R46623
Total Alkalinity (as CaCO3)	250.7	20.00		mg/L CaCO3	1	10/23/2017 8:26:47 PM	R46623
EPA METHOD 200.7: DISSOLVED METALS							Analyst: pmf
Manganese	0.073	0.0020	*	mg/L	1	10/24/2017 8:25:09 PM	C46621
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/23/2017 4:16:18 PM	34541
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/23/2017 4:16:18 PM	34541
Surr: DNOP	109	77.5-161		%Rec	1	10/23/2017 4:16:18 PM	34541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1.1	0.050		mg/L	1	10/20/2017 9:24:05 PM	G46523
Surr: BFB	243	69.3-150	S	%Rec	1	10/20/2017 9:24:05 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	390	20		µg/L	20	10/24/2017 2:51:56 AM	SL46567
Toluene	ND	1.0		µg/L	1	10/21/2017 8:02:35 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 8:02:35 AM	SL46543
Xylenes, Total	1.7	1.5		µg/L	1	10/21/2017 8:02:35 AM	SL46543
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	10/21/2017 8:02:35 AM	SL46543
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	10/21/2017 8:02:35 AM	SL46543
Surr: Dibromofluoromethane	112	70-130		%Rec	1	10/21/2017 8:02:35 AM	SL46543
Surr: Toluene-d8	97.5	70-130		%Rec	1	10/21/2017 8:02:35 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1710B26

Date Reported: 11/2/2017

CLIENT: Williams Four Corners

Client Sample ID: TRIP BLANK

Project: Florance GCJ 16A

Collection Date:

Lab ID: 1710B26-006

Matrix: AQUEOUS

Received Date: 10/20/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/20/2017 9:47:27 PM	G46523
Surr: BFB	93.8	69.3-150		%Rec	1	10/20/2017 9:47:27 PM	G46523
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	1.0		µg/L	1	10/21/2017 8:31:02 AM	SL46543
Toluene	ND	1.0		µg/L	1	10/21/2017 8:31:02 AM	SL46543
Ethylbenzene	ND	1.0		µg/L	1	10/21/2017 8:31:02 AM	SL46543
Xylenes, Total	ND	1.5		µg/L	1	10/21/2017 8:31:02 AM	SL46543
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	10/21/2017 8:31:02 AM	SL46543
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	10/21/2017 8:31:02 AM	SL46543
Surr: Dibromofluoromethane	115	70-130		%Rec	1	10/21/2017 8:31:02 AM	SL46543
Surr: Toluene-d8	95.9	70-130		%Rec	1	10/21/2017 8:31:02 AM	SL46543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-B		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID:	B46621		RunNo:	46621				
Prep Date:			Analysis Date:	10/24/2017		SeqNo:	1484894	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	ND	0.0020									

Sample ID	MB-C		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: C46621		RunNo: 46621					
Prep Date:			Analysis Date: 10/24/2017		SeqNo: 1484895		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LLLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: B46621		RunNo: 46621					
Prep Date:			Analysis Date: 10/24/2017		SeqNo: 1484897		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0022	0.0020	0.002000	0	112	50	150			

Sample ID	LLCS-C		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: C46621		RunNo: 46621					
Prep Date:			Analysis Date: 10/24/2017		SeqNo: 1484898		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0024	0.0020	0.002000	0	120	50	150			

Sample ID	LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: B46621		RunNo: 46621					
Prep Date:			Analysis Date: 10/24/2017		SeqNo: 1484907		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.49	0.0020	0.5000	0	97.9	85	115			

Sample ID	LCS-C		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: C46621		RunNo: 46621					
Prep Date:			Analysis Date: 10/24/2017		SeqNo: 1484954		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	96.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486426		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486428		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	106	50	150			

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A46658		RunNo: 46658					
Prep Date:			Analysis Date: 10/25/2017		SeqNo: 1486441		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	95.1	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R46553		RunNo: 46553							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482859		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R46553		RunNo: 46553							
Prep Date:	Analysis Date: 10/20/2017		SeqNo: 1482860		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Sulfate	9.7	0.50	10.00	0	96.9	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.4	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	LCS-34541		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW		Batch ID: 34541		RunNo: 46550					
Prep Date:	10/20/2017		Analysis Date: 10/23/2017		SeqNo: 1482926		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0	122	92.3	135			
Surr: DNOP	0.56		0.5000		112	77.5	161			

Sample ID	MB-34541		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range					
Client ID:	PBW		Batch ID: 34541		RunNo: 46550					
Prep Date:	10/20/2017		Analysis Date: 10/23/2017		SeqNo: 1482927		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		108	77.5	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID B29	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBW	Batch ID: G46523			RunNo: 46523						
Prep Date:	Analysis Date: 10/20/2017			SeqNo: 1482440		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		99.5	69.3	150			

Sample ID 2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSW	Batch ID: G46523			RunNo: 46523						
Prep Date:	Analysis Date: 10/20/2017			SeqNo: 1482442		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.57	0.050	0.5000	0	113	75.8	123			
Surr: BFB	21		20.00		106	69.3	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	SL46543	RunNo:	46543					
Prep Date:		Analysis Date:	10/20/2017	SeqNo:	1482480	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		87.5	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID	100ng lcsb	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46543	RunNo:	46543					
Prep Date:		Analysis Date:	10/20/2017	SeqNo:	1482481	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.0	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	SL46567	RunNo:	46567					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483379	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46567	RunNo:	46567					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483380	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	SL46567	RunNo:	46567					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483380	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.4	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.5	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.6	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710B26

02-Nov-17

Client: Williams Four Corners

Project: Florance GCJ 16A

Sample ID	mb-1 alk		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485203		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-1 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485204		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81.88	20.00	80.00	0	102	90	110			

Sample ID	mb-2 alk		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485227		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-2 alk		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R46623		RunNo: 46623					
Prep Date:			Analysis Date: 10/23/2017		SeqNo: 1485228		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82.24	20.00	80.00	0	103	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: **WILLIAMS FOUR CORN**

Work Order Number: **1710B26**

RcptNo: **1**

Received By: **Anne Thorne**

10/20/2017 7:15:00 AM



Completed By: **Anne Thorne**

10/20/2017 9:31:16 AM



Reviewed By:



10/20/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 10
 (2 or >12 unless noted)
 Adjusted? NO
 Checked by: STR

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

