

Incident ID	nAPP2036337003
District RP	
Facility ID	
Application ID	

## Remediation Plan

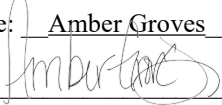
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amber Groves Title: Remediation Coordinator  
Signature:  Date: 06/16/2021  
email: algroves@paalp.com Telephone: 575-200-5517

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



12600 WEST CO RD 91  
MIDLAND, TX 79707  
OFFICE: 432.653.4203

## **SOIL REMEDIATION ACTIVITIES REPORT AND DEFERRAL REQUEST**

PLAINS PIPELINE, L.P.

COG SCREWDRIVER 24 FED COM 2H RELEASE

EDDY COUNTY, NM

NMOCD INCIDENT #: nAPP2036337003

SRS #: 2020-095

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June 3, 2021

New Mexico Oil Conservation Division District 2  
811 S. First Street  
Artesia, New Mexico 88210

**Re: Soil Remediation Activities Report and Deferral Request**

**COG Screwdriver 24 Fed Com 2H Release**

**Unit Letter P, Section 24, Township 19S, Range 31E**

**GPS: N 32.640918°, W -103.814648°**

**Eddy County, New Mexico**

**NMOCD Incident #: nAPP2036337003**

**SRS #: 2020-095**

**1. Introduction**

Dean Companies, Inc. (Dean) is pleased to present this Soil Remediation Activities Report and Deferral Request on behalf of Plains Pipeline, L.P. (Plains) to document the field soil remediation activities that were conducted at the COG Screwdriver 24 Fed Com 2 H Release site. The crude oil release occurred from a LACT unit, located approximately 28.64 miles northeast of Carlsbad, Eddy County, New Mexico in Unit Letter P, Section 24, Township 19S, and Range 31E. The GPS coordinates for the site is N 32.640918° and W -103.814648°. A "Site Location Map" is provided as Figure 1 and "Topographic Map" as Figure 2. The surface is owned by the Bureau of Land Management (BLM).

**2. Release Description and Response**

On December 22, 2020, a crude oil release occurred at the COG Screwdriver 24 Fed Com 2 H and was attributed to the center piston failure of the triplex pump on the LACT unit. Approximately twenty (20) barrels (bbls) of crude oil was released with two (2) bbls recovered for a net loss of eighteen (18) bbls of crude oil. The release was contained onsite adjacent to the LACT unit and under the producer's tank berm affecting an area measuring approximately fifty (50) feet (ft) in length by two



(2) to twenty (20) ft in width to an estimated maximum depth of seven (7) ft below ground surface (bgs).

On December 28, 2020, Dean was assigned management oversight responsibilities for impacted soil delineation, remediation, soil sampling, site restoration, and reporting activities by Plains. On December 28, 2020, Plains submitted the initial C-141 Form to the NMOCD (Appendix A).

### **3. NMOCD Regulatory Limits**

NMOCD assessment and cleanup levels for hydrocarbon and produced water releases are based on depth to groundwater and follow the criteria in the revised August 2018 Title 19 Chapter 15 Part 29 New Mexico Administration Code (19.15.29 NMAC) regulations. Groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE), the New Mexico Bureau of Geology & Mineral Resources (NMBGMR), and The United States Geological Survey (USGS) were accessed to determine if any registered water wells in or near the site. One water well (CP 010640 POD1) was listed in the vicinity northeast of the site with groundwater reported at 102 feet bgs. See Appendix B for the NMOSE water well depth near site. In addition, according to the Bureau of Land Management (BLM) the site is located in an area of low potential karst topography. See Figure 3 "Site Location Relative to Known Regional Karst Topography". As outlined in 19.15.29.12.B. (4) NMAC, the release does not occur in referenced sensitive areas, with the nearest water body feature being the Pecos River located approximately 26.4 mile southwest of the site. Meeting the previous criteria, the NMOCD restoration and cleanup levels for soils impacted by hydrocarbons with low karst topography is as follows:

- |                 |              |
|-----------------|--------------|
| • Chloride      | 20,000 mg/Kg |
| • TPH (Gro+Dro) | 1,000 mg/Kg  |
| • Total TPH     | 2,500 mg/Kg  |
| • Benzene       | 10 mg/Kg     |
| • Total BTEX    | 50 mg/Kg     |

### **4. Soil Assessment Activities and Sample Analysis**

On December 30, 2020 and January 4 through 5, 2021, Dean Personnel conducted soil assessment activities at the release site. A hand auger was utilized to collect soil samples from the site to determine depth of hydrocarbon and chloride impacts. Soil samples were collected at one (1) ft. intervals to a maximum depth of eleven (11) feet bgs or until refusal was encountered due to underlying limestone. Six (6) auger hole locations (AH-1, AH-2, AH-4, AH-5, AH-6 and AH-8) were

installed within the LACT unit, while seven (7) auger holes (AH-3, AH-7, AH-1H through AH-5H) were installed horizontally under the adjacent tank battery with collected soils placed into laboratory-provided sample containers, labeled, stored on ice, and transported under proper chain-of-custody documentation to Permian Basin Environmental Labs (PBELAB) of Midland, Texas. Soil samples were analyzed for total petroleum hydrocarbons (TPH) utilizing Method SW-846 8015M, with select samples analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) utilizing Method SW-846 8021B, and chlorides utilizing Method E300.0. See Figure 4 "Site Details and Delineation Soil Sample Location Map". Benzene concentrations were above the NMOCD standards of 10 milligrams per kilogram (mg/Kg) for soil samples AH-1 @ 1' (276 mg/Kg), AH-1 @ 3' (46.5 mg/Kg), AH-1 @ 5' (296 mg/Kg), AH-1 @ 7' (217 mg/Kg) within the LACT unit and in AH-7 @ 1' (14.8 mg/Kg), and AH-7 @ 5' (55.5 mg/Kg) beneath the adjacent tank battery. All remaining soil samples were below the NMOCD standards of 10 mg/Kg Benzene. Total BTEX concentrations were above the NMOCD standards of 50 mg/Kg for soil samples AH-1 @ 1' (2,022 mg/kg), AH-1 @ 3' (940.5 mg/Kg), AH-1 @ 5' (1,901.9 mg/Kg), AH-1 @ 7' (1,222.3 mg/Kg) within the LACT unit and AH-2H @ 1' (2,574 mg/Kg), AH-7 @ 1' (164.6 mg/Kg, AH-7 @ 3' (176.73 mg/Kg), and AH-7 @ 5' (605.4 mg/Kg) beneath the adjacent tank battery. All remaining soil samples were below the NMOCD standards of 50 mg/Kg Total BTEX. The TPH (Gro + Dro) and Total TPH were above either or both the NMOCD standards of 1,000 mg/Kg (Gro + Dro) and 2,500 mg/Kg for Total TPH for soil samples AH-1 @ 1', AH-1 @ 3', AH-1 @ 5', AH-1 @ 7' within the LACT unit and AH-2H @ 1', AH-7 @ 1', AH-7 @ 3', and AH-7 @ 5' beneath the adjacent tank battery. The TPH (Gro + Dro) concentrations ranged from 1,319 mg/Kg for soil sample AH-3H @ 1' beneath the adjacent tank battery to 26,800 mg/Kg for soil sample AH-1 @ 1' within LACT unit, while Total TPH concentrations ranged from 7,573 mg/Kg for soil sample AH-7 @ 1' to 35,660 mg/Kg for soil sample AH-2H @ 1', both beneath the adjacent tank battery. All other remaining soil samples were below the NMOCD standards for TPH. Chloride concentrations were below the NMOCD standards of 20,000 mg/Kg for all soil samples analyzed and ranged from 1.06 mg/Kg for soil sample AH-4 @ 1' to 127 mg/Kg for soil sample AH-8 @ 1'. See Table 1 for delineation analytical results. Laboratory reports containing analytical methods, results, and chain-of-custody documents are included in Appendix C. See site photographs documenting site conditions in Appendix D.

## **5. Soil Remediation Activities and Confirmation Soil Sampling**

Between January 4 and March 31, 2021, third-party soil remediation activities were performed at the Screwdriver 24 Fed Com 2H Release site. Soil remediation commenced utilizing hand excavation of hydrocarbon impacted soils adjacent to the LACT unit and the onsite piping with the excavated

soils stockpiled on plastic. Final dimensions of the excavation were approximately thirty-five (35) ft. in length, by thirty-five (35) ft. in width to a depth of three (3) ft bgs. Approximately 40 cubic yards of soil were removed and stockpiled on plastic at the site.

Due to limited accessibility and to ensure structural integrity of the LACT unit, the site was excavated to a maximum depth of three (3) ft bgs (See site photograph 5 showing location of AH-1 and LACT area with remaining hydrocarbon impact for deferral). To ensure the integrity of the vibrating equipment within the LACT and prevent a possible collapse of soils around the unit the remaining four (4) ft of impacted soil in AH-1 were left in-situ along with the impacted soils on the west wall of excavation, which abuts against the producer's tank battery, and will be deferred until time of abandonment or replacement/upgrade of the LACT unit.

In addition, the hydrocarbons from the LACT unit release migrated beneath the adjacent lined steel berm of the producer's tank battery. (See photographs 3 and 4 showing liner, steel berm and location of hydrocarbons). Delineation of the hydrocarbons was performed adjacent and at an angle to the tank battery (denoted by AH-2H @ 1', AH-3H @ 1', and AH-7 @ 7'). Since it is not economically or technically feasible to remediate the soils with the existing equipment onsite, remediation of the remaining impacted soils will be deferred until time of abandonment or upgrade to the tank battery. See Figure 5 showing area of impact remaining within producer's tank battery for deferral.

On January 4, 2020, after initial excavation activities, one (1) composite five (5) point wall sample (NW-1) was collected within two hundred (200) square feet on the northern wall and submitted for analysis of TPH, BTEX, and Chlorides to PBELab. The analytical results were below the NMOCD standards for Benzene, BTEX, TPH, and Chlorides.

After further excavation on January 22, 2021, one (1) composite bottom hole (BH-2 @ 3') and two (2) composite five (5) point wall samples (SSW-1 and ESW-1) were collected within two hundred (200) square feet of each other from the bottom and two (2) side walls and submitted for analysis of TPH, BTEX, and Chlorides to PBELab. Soil sample SSW-1 exceeded the NMOCD standards for TPH (Gro + Dro) and Total TPH with concentrations of 3,510 mg/Kg and 4,054 mg/Kg, respectively. All other samples were below NMOCD standards for Benzene, BTEX, TPH, and Chlorides.

On February 23, 2021, after further excavation on the south wall, a five (5) point composite wall sample (SSW-1A) was collected within two hundred (200) square feet and submitted for analysis of TPH to the lab. The analytical result exceeded the NMOCD standard for TPH (Gro + Dro) with a concentration of 1,175.8 mg/Kg.

Additional excavation was performed along the south wall of the excavation and resampled on March 18, 2021. The five (5) point composite wall sample (SSW-1B) was submitted for analysis of TPH to the lab. The analytical result was below the NMOCD standard for TPH (Gro + Dro) with a concentration of 28.4 mg/Kg. See Figure 6 "Site Details & Confirmation Soil Sample Location Map" for soil sample location and Table 2 for confirmation analytical results.

## **6. Soil Disposal and Site Restoration**

After collecting requisite samples from the LACT unit excavation, Plains was onsite in April to backfill the excavation with locally sourced non-impacted soils and the site brought up to grade. On June 7, 2021, approximately 40 cubic yards of hydrocarbon impacted soils were transported offsite for disposal at Lea Land, LLC in Carlsbad, New Mexico with waste manifests available upon request.

## **7. NMOCD Requested Extension**

On April 7, 2021, Plains requested a 60-day extension for Plains nAPP2036337003 COG Screwdriver 24 Fed Com 2H. In an email dated April 8, 2021, the NMOCD approved the 60-day extension until June 7, 2021. See Appendix E for Extension Request and NMOCD Response.

## **8. Variance and Closure Request**

Plains requests a variance to the current rule to include a deferral of cleanup/remediation for impacted soils remaining from 1 ft to 7 ft (denoted by auger holes AH-1 [ from 3 to 7' bgs], AH-2H [ at 1' bgs], AH-3H [ at 1' bgs] and AH-7 [ from 1' to 5' bgs]) beneath the producer's tank battery until time of abandonment, due to limited accessibility to impacted soils (i.e. lined tank battery, steel berm). In order to remediate the soils beneath the existing tank battery would require the producer to shut-in the associated pumpjacks, purge six (6) onsite 500-barrel tanks, removal of the six (6) tanks along with existing steel berm and poly liner at a substantial effort on the producer's part. In addition, Plains also request a variance to the current rule to include a deferral of cleanup/remediation of impacted soils remaining from 3 ft to 7 ft bgs (denoted by AH-1) within LACT unit due to limited accessibility and to ensure the structural integrity of the LACT unit until time of abandonment or upgrade to system. With the depth of groundwater at 102 ft bgs, Plains believes the remaining inaccessible hydrocarbon impacted soils is not likely to impact the underlying groundwater.

With completion of the vertical and horizontal delineation, remediation of accessible soils, and backfilling of the excavation with locally sourced non-impacted soils, Plains respectfully requests that the NMOCD consider the site for deferral. A C-141 deferral is attached to the front of this report.

If you have any questions, or if additional information is required, please feel free to contact Amber Groves (email: [ALGroves@paalp.com](mailto:ALGroves@paalp.com), cell: 575.200.7717) of Plains or Sylwia Reynolds (email: [sylwiareynolds@deandigs.com](mailto:sylwiareynolds@deandigs.com), cell: 432.999.8675) or Jeff Kindley (email: [jeffreykindley@deandigs.com](mailto:jeffreykindley@deandigs.com) cell: 432.230.0920) of Dean.

Sincerely,



**Sylwia Reynolds**

Project Manager



**Jeffrey Kindley, PG.**

Professional Geologist

## **TABLES**



**Chemistry Table 1**  
**Delineation - Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil**  
**Plains Pipeline, L.P.**  
**COG Screwdriver Release**  
**Eddy County, NM**

SAMPLE INFORMATION					METHODS: EPA SW 846-8021B, 5030					METHOD: E 300	METHODS: EPA SW 846-8015M				
SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH	SAMPLE METHOD	MATRIX	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	XYLENE (mg/kg)	Total BTEX (mg/kg)	CHLORIDES (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO +DRO (mg/kg)	ORO (mg/kg)	TOTAL TPH (mg/kg)
AH-1 @ 1'	12/30/20	1'	GRAB	SOIL	276	725	440	465	116	1.27	12,500	14,300	26,800	2,480	29,280
AH-1 @ 3'	12/30/20	3'	GRAB	SOIL	46.5	320	246	259	69	13.6	8,940	13,600	22,540	2,220	24,760
AH-1 @ 5'	12/30/20	5'	GRAB	SOIL	296	724	385	397	99.9	8.07	12,200	13,900	26,100	2,330	28,430
AH-1 @ 7'	12/30/20	7'	GRAB	SOIL	217	423	258	261	63.3	-	8,810	10,200	19,010	1,770	20,780
AH-1 @ 9'	12/30/20	9'	GRAB	SOIL	0.0411	0.0598	<0.0230	<0.0230	<0.0230	-	<28.7	71.3	71.3	<28.7	71.3
AH-1H @ 1'	01/04/21	1'	GRAB	SOIL	0.0262	0.290	0.372	0.83	1.5182	16.8	42.9	355	397.9	52.1	450
AH-1H @ 3'	01/04/21	3'	GRAB	SOIL	-	-	-	-	-	10.2	-	-	-	-	-
AH-2 @ 1'	01/04/21	1'	GRAB	SOIL	0.0157	0.0370	0.0152	0.02796	0.09586	47.2	<28.4	126	126	<28.4	126
AH-2 @ 3'	01/04/21	3'	GRAB	SOIL	-	-	-	-	-	14.0	-	-	-	-	-
AH-2 @ 5'	01/04/21	5'	GRAB	SOIL	-	-	-	-	-	16.6	-	-	-	-	-
AH-2H @ 1'	01/04/21	1'	GRAB	SOIL	324	918	509	823	2,574	112	16,800	16,400	33,200	2,460	35,660
AH-2H @ 3'	01/04/21	3'	GRAB	SOIL	0.0468	0.194	0.354	0.724	1.3188	6.48	104	402	506	58.3	564.3
AH-2H @ 5'	01/04/21	5'	GRAB	SOIL	-	-	-	-	-	11.7	-	-	-	-	-
AH-2H @ 7'	01/04/21	7'	GRAB	SOIL	-	-	-	-	-	14.6	-	-	-	-	-
AH-2H @ 9'	01/04/21	9'	GRAB	SOIL	-	-	-	-	-	7.30	-	-	-	-	-
AH-2H @ 11'	01/04/21	11'	GRAB	SOIL	-	-	-	-	-	9.95	-	-	-	-	-
AH-3 @ 1'	01/04/21	1'	GRAB	SOIL	0.174	1.94	3.53	7.14	12.784	92.7	131	499	630	61.1	691.1
AH-3 @ 3'	01/04/21	3'	GRAB	SOIL	-	-	-	-	-	46.1	-	-	-	-	-
AH-3H @ 1'	01/04/21	1'	GRAB	SOIL	0.208	4.23	6.29	12	22.728	54.4	355	964	1,319	129	1,448
AH-3H @ 3'	01/04/21	3'	GRAB	SOIL	-	-	-	-	-	26.4	<26.9	35.9	35.9	<26.9	35.9
AH-4 @ 1'	01/05/21	1'	GRAB	SOIL	0.0135	0.00984	0.00189	<0.00106	0.02523	1.06	<26.6	<26.6	<26.6	<26.6	<26.6
AH-4 @ 3'	01/05/21	3'	GRAB	SOIL	-	-	-	-	-	7.93	-	-	-	-	-
AH-4H @ 1'	01/05/21	1'	GRAB	SOIL	0.00225	0.00287	<0.00105	<0.00105	0.00512	43.5	<26.3	<26.3	<26.3	<26.3	<26.3



**Chemistry Table 1**  
**Delineation - Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil**  
**Plains Pipeline, L.P.**  
**COG Screwdriver Release**  
**Eddy County, NM**

SAMPLE INFORMATION					METHODS: EPA SW 846-8021B, 5030					METHOD: E 300	METHODS: EPA SW 846-8015M				
SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH	SAMPLE METHOD	MATRIX	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	XYLENE (mg/kg)	Total BTEX (mg/kg)	CHLORIDES (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO +DRO (mg/kg)	ORO (mg/kg)	TOTAL TPH (mg/kg)
AH-4H @ 3'	01/05/21	3'	GRAB	SOIL	-	-	-	-	-	75.3	-	-	-	-	-
AH-5 @ 1'	01/05/21	1'	GRAB	SOIL	0.0127	0.00944	0.00126	<0.00103	0.0234	12.1	<25.8	<25.8	<25.8	<25.8	<25.8
AH-5 @ 3'	01/05/21	3'	GRAB	SOIL	-	-	-	-	-	14.1	-	-	-	-	-
AH-5H @ 1'	01/05/21	1'	GRAB	SOIL	0.00205	0.00324	<0.00106	<0.00106	0.00529	24.6	<26.6	<26.6	<26.6	<26.6	<26.6
AH-5H @ 3'	01/05/21	3'	GRAB	SOIL	-	-	-	-	-	35.6	-	-	-	-	-
AH-6 @ 1'	01/05/21	1'	GRAB	SOIL	0.00889	0.00581	<0.00104	<0.00104	0.0147	41.2	<26.0	<26.0	<26.0	<26.0	<26.0
AH-6 @ 3'	01/05/21	3'	GRAB	SOIL	-	-	-	-	-	91.0	-	-	-	-	-
AH-7 @ 1'	01/05/21	1'	GRAB	SOIL	14.8	36.1	41.3	72.4	164.6	48.9	2,590	4,450	7,040	533	7,573
AH-7 @ 3'	01/05/21	3'	GRAB	SOIL	9.93	40.0	41.6	85.2	176.73	16.6	3,260	5,740	9,000	806	9,806
AH-7 @ 5'	01/05/21	5'	GRAB	SOIL	55.5	160	146	243.9	605.4	19.6	4,470	6,620	11,090	956	12,046
AH-7 @ 7'	01/05/21	7'	GRAB	SOIL	0.0124	0.293	0.410	0.896	1.6114	18.5	72.0	468	540	65.6	605.6
AH-7 @ 9'	01/05/21	9'	GRAB	SOIL	-	-	-	-	-	13.2	-	-	-	-	-
AH-7 @ 11'	01/05/21	11'	GRAB	SOIL	-	-	-	-	-	16.9	-	-	-	-	-
AH-8 @ 1'	01/05/21	1'	GRAB	SOIL	0.0568	0.238	0.357	0.64	1.2918	127	87.5	472	559.5	50.2	609.7
AH-8 @ 3'	01/05/21	3'	GRAB	SOIL	-	-	-	-	-	18.6	-	-	-	-	-
AH-8 @ 5'	01/05/21	5'	GRAB	SOIL	0.0355	0.0286	0.00905	0.01489	0.08804	6.19	<26.9	<26.9	<26.9	<26.9	<26.9
AH-8 @ 7'	01/05/21	7'	GRAB	SOIL	-	-	-	-	-	9.14	-	-	-	-	-
AH-8 @ 9'	01/05/21	9'	GRAB	SOIL	0.0130	0.0162	0.00335	0.00615	0.0387	7.35	<26.6	<26.6	<26.6	<26.6	<26.6
NMOCD Recommended Remediation Action Level					10	-	-	-	50	20,000	-	-	1,000	-	2,500

Exceeds NMOCD Recommended RAL

Soils permanently removed from the ground during excavation activities





**Chemistry Table 2**  
**Confirmation - Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil**  
**Plains Pipeline, L.P.**  
**COG Screwdriver Release**  
**Eddy County, NM**

SAMPLE INFORMATION					METHODS: EPA SW 846-8021B, 5030					METHOD: E 300	METHODS: EPA SW 846-8015M				
SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH	SAMPLE METHOD	MATRIX	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL- BENZENE (mg/kg)	XYLENE (mg/kg)	Total BTEX (mg/kg)	CHLORIDES (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	GRO +DRO (mg/kg)	ORO (mg/kg)	TOTAL TPH (mg/kg)
BH-2 @ 3'	01/22/21	3'	GRAB	SOIL	<0.00109	<0.00109	<0.00109	<0.00217	<0.00109	16.3	<27.2	<27.2	<27.2	<27.2	<27.2
SSW-1	01/22/21	NA	GRAB	SOIL	0.00151	0.0303	0.0113	0.02591	0.06902	70.8	170	3,340	3,510	544	4,054
SSW-1A	02/23/21	NA	GRAB	SOIL	-	-	-	-	-	-	35.8	1,140	1,175.8	181	1,356.8
SSW-1B	03/18/21	NA	GRAB	SOIL	-	-	-	-	-	-	<25.3	28.4	28.4	<25.3	28.4
ESW-1	01/22/21	NA	GRAB	SOIL	0.00392	0.0146	0.00383	0.01628	0.03863	103	<25.3	44.6	44.6	<25.3	44.6
NW-1	01/05/21	NA	GRAB	SOIL	0.0463	0.00895	0.00154	<0.00103	0.05679	56.8	<25.8	108	108	<25.8	108
NMOCD Recommended Remediation Action Level					10	-	-	-	50	20,000	-	-	1,000	-	2,500

Exceeds NMOCD Recommended RAL

## **FIGURES**

Figure 1

Site Location Map

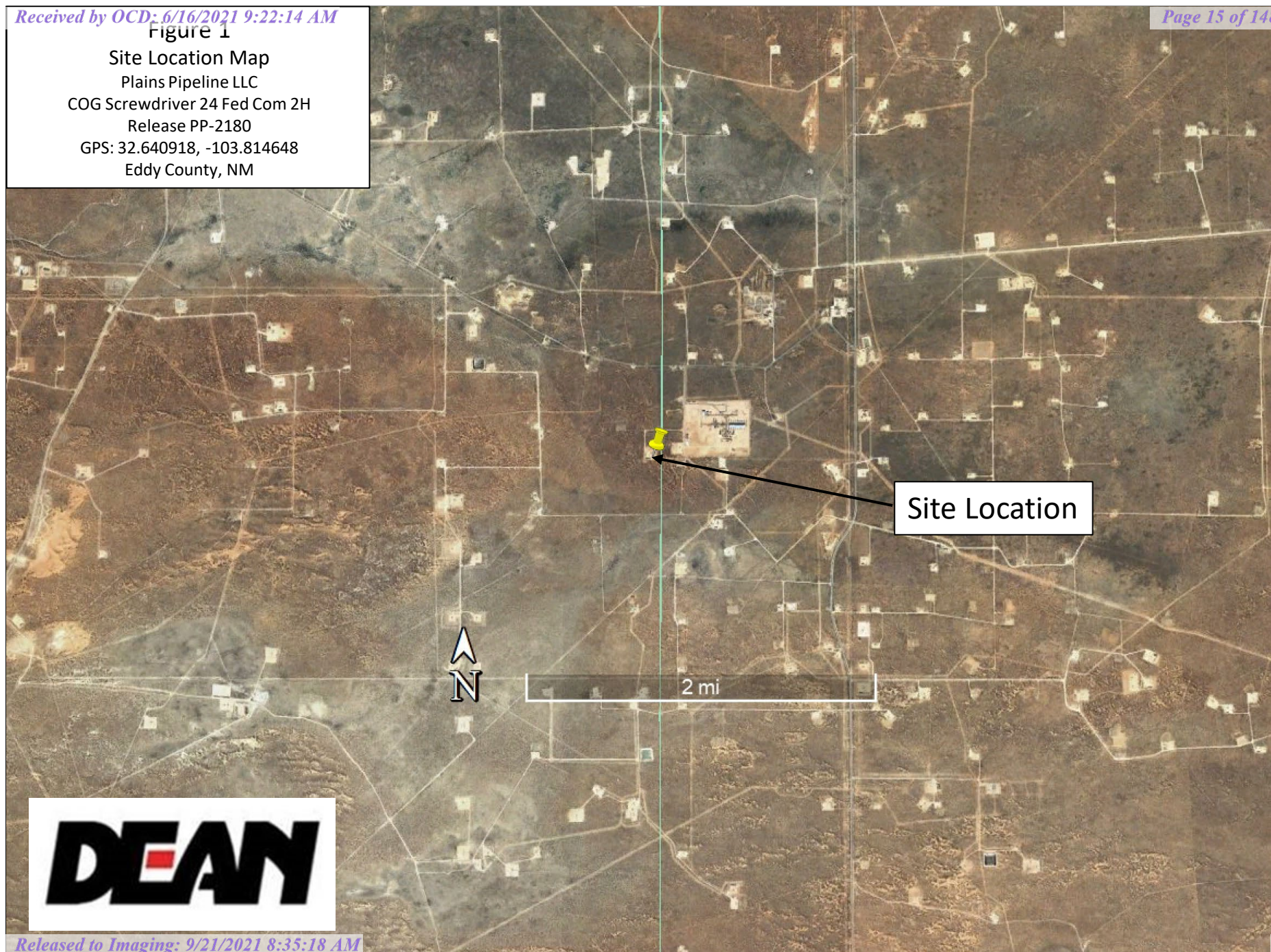
Plains Pipeline LLC

COG Screwdriver 24 Fed Com 2H

Release PP-2180

GPS: 32.640918, -103.814648

Eddy County, NM



**DEAN**



Figure 2

Topographic Map  
Plains Pipeline LLC  
COG Screwdriver 24 Fed Com 2H  
Release PP-2180  
GPS: 32.640918, -103.814648  
Eddy County, NM

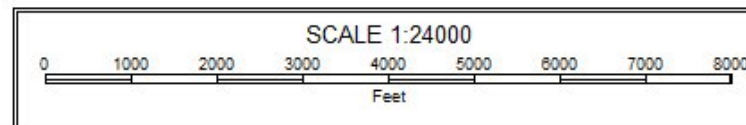
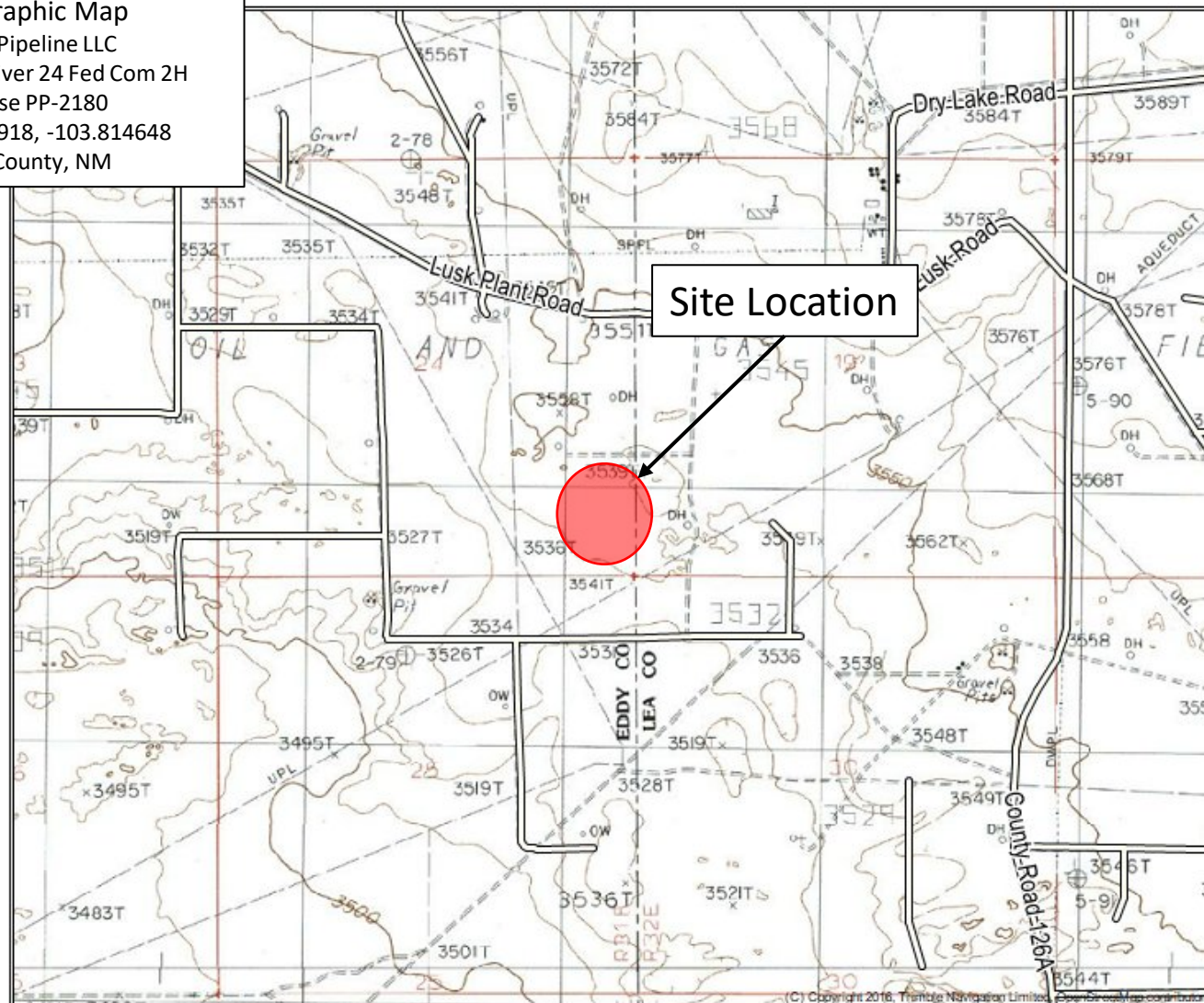


Figure 3

Site Location Relative to Karst

Topography Map

Plains Pipeline LLC

COG Screwdriver 24 Fed Com 2H Release

PP-2180

GPS: 32.640918, -103.814648 Eddy County,  
NM

Site Location



2 mi

Legend



High



Low



Medium

**DEAN**



Figure 4

Site Details and Delineation Soil Sample Location Map

Plains Pipeline LLC

COG Screwdriver 24 Fed Com 2H Release

PP-2180

GPS: 32.640918, -103.814648

Eddy County, NM

Legend

Excavation Area:



Sample Point:



**DEAN**



Figure 5

Site Details Showing Remaining Area of Impact for  
Deferral Beneath COG Facility Map

Plains Pipeline LLC

COG Screwdriver 24 Fed Com 2H Release

PP-2180

GPS: 32.640918, -103.814648

Eddy County, NM

Legend

Excavation Area:



Estimated Area of Remaining Impact:



**DEAN**



Figure 6

# Site Details and Confirmation Soil Sample Location Map

Plains Pipeline LLC  
COG Screwdriver 24 Fed Com 2H Release  
PP-2180  
GPS: 32.640918, -103.814648  
Eddy County, NM

## Legend

Excavation Area:



Sample Point:





**APPENDIX A**  
**NMOCD C-141 FORM**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural  
Resources Department

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	nAPP2036337003
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party Plains Pipeline, L.P.	OGRID 713291
Contact Name Amber Groves	Contact Telephone 575-200-5517
Contact email algroves@paalp.com	Incident # (assigned by OCD)
Contact mailing address 3112 W. US Hwy 82, Lovington, NM 88260	

### Location of Release Source

Latitude 32.640918

Longitude -103.814648

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Plains COG Screwdriver 24 Fed Com 2H	Site Type LACT Unit
Date Release Discovered 12/22/2020	API# (if applicable)

Unit Letter	Section	Township	Range	County
P	24	19S	31E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 20 bbls	Volume Recovered (bbls) 2 bbls
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release


Center piston failure of the triplex pump of the LACT Unit.

Incident ID	nAPP2036337003
District RP	
Facility ID	
Application ID	

<p>Was this a major release as defined by 19.15.29.7(A) NMAC?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>If YES, for what reason(s) does the responsible party consider this a major release?</p>
<p>If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?</p> <p>Immediate notification given via e-mail to Jim Griswold, Bradford Billings, Mike Bratcher, Cristina Eads, Robert Hamlet and Victoria Venegas on 12/22/2020.</p>	

## Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Amber Groves</u>	Title: <u>Remediation Coordinator</u>
Signature: 	Date: <u>12/28/2020</u>
email: <u>algroves@paalp.com</u>	Telephone: <u>(575)200-5517</u>
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____

## Amber L Groves

---

**From:** David Guerrero Jr  
**Sent:** Monday, December 28, 2020 9:31 AM  
**To:** Amber L Groves  
**Cc:** Jose C DeLao  
**Subject:** COG Screwdriver Release Justification

Amount lost for the Screwdriver 24 Fed Com 2H release is approximately 20bbbls of crude.

This is based on measurements of release area around the LACT skid and measurement estimates under the producer owned tank liner:

Based on Liquid Spill Calculator

- Average measurements of release area near LACT Skid: 15' x 16' x 1" (12x16x1x.015 = 3.6bbbls)
- Average measurements of release under producer owned liner: 30' x 30' x 1" (30x30x1x.015 = 13.5bbbls)

Based on Soil Calculator

- Average measurement of contaminated soil near LACT Skid: 15' x 16' x 1" @ a 20% Estimated Pore Space = 2.1 bbbls.

Thank you,

**DAVID GUERRERO JR**  
PLAINS ALL AMERICAN  
DISTRICT MANAGER, PPN  
(432) 202-9397 | (432) 758-8002  
DGUERRERO@PAALP.COM

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS  
  
Action 13602

CONDITIONS OF APPROVAL


Operator:	PLAINS MARKETING L.P.	333 Clay St, Ste 1600	Houston, TX77002	OGRID:	34053	Action Number:	13602	Action Type:	C-141
OCD Reviewer	Condition								
mrcus	None								

## **APPENDIX B**

### **NMOSE WATER LEVELS**



# New Mexico Office of the State Engineer Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)				(NAD83 UTM in meters)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
	CP 00640 POD1	2	2	19	19S	32E	612621	3613280*	

---

<b>Driller License:</b>	882	<b>Driller Company:</b>	LARRY'S DRILLING & PUMP CO.		
<b>Driller Name:</b>	FELKINS, LARRY				
<b>Drill Start Date:</b>	02/08/1982	<b>Drill Finish Date:</b>	02/09/1982	<b>Plug Date:</b>	
<b>Log File Date:</b>	03/04/1982	<b>PCW Rcv Date:</b>		<b>Source:</b>	Shallow
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>	
<b>Casing Size:</b>		<b>Depth Well:</b>	260 feet	<b>Depth Water:</b>	102 feet

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/10/21 11:51 AM

POINT OF DIVERSION SUMMARY

## **APPENDIX C**

### **LABORATORY ANALYTICAL REPORTS**



**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



# Analytical Report

**Prepared for:**

Sylwia Reynolds  
Dean  
12600 W County Rd 91  
Midland, TX 79707

Project: COG Screwdriver Release

Project Number: PP-2180

Location: Eddy County, NM

Lab Order Number: 0L30003



**NELAP/TCEQ # T104704516-17-8**

Report Date: 01/08/21

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-1 @ 1'	0L30003-01	Soil	12/30/20 08:45	12-30-2020 16:24
AH-1 @ 3'	0L30003-02	Soil	12/30/20 08:55	12-30-2020 16:24
AH-1 @ 5'	0L30003-03	Soil	12/30/20 09:05	12-30-2020 16:24
AH-1 @ 7'	0L30003-04	Soil	12/30/20 09:15	12-30-2020 16:24
AH-1 @ 9'	0L30003-05	Soil	12/30/20 09:25	12-30-2020 16:24

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1 @ 1'**  
**0L30003-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>276</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/05/21	EPA 8021B	
<b>Toluene</b>	<b>725</b>	5.56	mg/kg dry	5000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>440</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/05/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>465</b>	2.22	mg/kg dry	1000	P1A0401	01/04/21	01/05/21	EPA 8021B	
<b>Xylene (o)</b>	<b>116</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/05/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		80-120	P1A0401	01/04/21	01/05/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		98.4 %		80-120	P1A0401	01/04/21	01/05/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>1.27</b>	1.11	mg/kg dry	1	P0L3102	12/31/20	01/04/21	EPA 300.0	
<b>% Moisture</b>	<b>10.0</b>	0.1	%	1	P0L3104	12/31/20	12/31/20	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>12500</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>14300</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>2480</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		170 %		70-130	P0L3103	12/31/20	01/05/21	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		129 %		70-130	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>29200</b>	278	mg/kg dry	10	[CALC]	12/31/20	01/05/21	calc	

Permian Basin Environmental Lab, L.P.

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.*

1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1 @ 3'**  
**0L30003-02 (Soil)**

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

**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>46.5</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Toluene</b>	<b>320</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>246</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>259</b>	2.22	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Xylene (o)</b>	<b>69.0</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.2 %	80-120		P1A0401	01/04/21	01/06/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		86.6 %	80-120		P1A0401	01/04/21	01/06/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>13.6</b>	1.11	mg/kg dry	1	P0L3102	12/31/20	01/05/21	EPA 300.0	
<b>% Moisture</b>	<b>10.0</b>	0.1	%	1	P0L3104	12/31/20	12/31/20	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>8940</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>13600</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>2220</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		164 %	70-130		P0L3103	12/31/20	01/05/21	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		129 %	70-130		P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>24700</b>	278	mg/kg dry	10	[CALC]	12/31/20	01/05/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1 @ 5'**  
**0L30003-03 (Soil)**

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

**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>296</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Toluene</b>	<b>724</b>	5.56	mg/kg dry	5000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>385</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>397</b>	2.22	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Xylene (o)</b>	<b>99.9</b>	1.11	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		91.3 %	80-120		P1A0401	01/04/21	01/06/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.4 %	80-120		P1A0401	01/04/21	01/06/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>8.07</b>	1.11	mg/kg dry	1	P1A0502	01/05/21	01/05/21	EPA 300.0	
<b>% Moisture</b>	<b>10.0</b>	0.1	%	1	P0L3104	12/31/20	12/31/20	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>12200</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>13900</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>2330</b>	278	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		167 %	70-130		P0L3103	12/31/20	01/05/21	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		126 %	70-130		P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>28400</b>	278	mg/kg dry	10	[CALC]	12/31/20	01/05/21	calc	

Permian Basin Environmental Lab, L.P.

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.*

1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1 @ 7'**  
**0L30003-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>217</b>	1.14	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Toluene</b>	<b>423</b>	5.68	mg/kg dry	5000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>258</b>	1.14	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>261</b>	2.27	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<b>Xylene (o)</b>	<b>63.3</b>	1.14	mg/kg dry	1000	P1A0401	01/04/21	01/06/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		95.6 %		80-120	P1A0401	01/04/21	01/06/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.9 %		80-120	P1A0401	01/04/21	01/06/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>% Moisture</b>	<b>12.0</b>	0.1	%	1	P0L3104	12/31/20	12/31/20	ASTM D2216	
-------------------	-------------	-----	---	---	---------	----------	----------	------------	--

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>8810</b>	284	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>10200</b>	284	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>1770</b>	284	mg/kg dry	10	P0L3103	12/31/20	01/05/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		148 %		70-130	P0L3103	12/31/20	01/05/21	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		126 %		70-130	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>20800</b>	284	mg/kg dry	10	[CALC]	12/31/20	01/05/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1 @ 9'**  
**0L30003-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0411</b>	0.0230	mg/kg dry	20	P1A0401	01/04/21	01/05/21	EPA 8021B	
<b>Toluene</b>	<b>0.0598</b>	0.0230	mg/kg dry	20	P1A0401	01/04/21	01/05/21	EPA 8021B	
Ethylbenzene	ND	0.0230	mg/kg dry	20	P1A0401	01/04/21	01/05/21	EPA 8021B	
Xylene (p/m)	ND	0.0460	mg/kg dry	20	P1A0401	01/04/21	01/05/21	EPA 8021B	
Xylene (o)	ND	0.0230	mg/kg dry	20	P1A0401	01/04/21	01/05/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.2 %	80-120		P1A0401	01/04/21	01/05/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		102 %	80-120		P1A0401	01/04/21	01/05/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>% Moisture</b>	<b>13.0</b>	0.1	%	1	P0L3104	12/31/20	12/31/20	ASTM D2216	
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	28.7	mg/kg dry	1	P0L3103	12/31/20	01/05/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>71.3</b>	28.7	mg/kg dry	1	P0L3103	12/31/20	01/05/21	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P0L3103	12/31/20	01/05/21	TPH 8015M	
Surrogate: 1-Chlorooctane		115 %	70-130		P0L3103	12/31/20	01/05/21	TPH 8015M	
Surrogate: o-Terphenyl		141 %	70-130		P0L3103	12/31/20	01/05/21	TPH 8015M	S-GC
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>71.3</b>	28.7	mg/kg dry	1	[CALC]	12/31/20	01/05/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0401 - General Preparation (GC)****Blank (P1A0401-BLK1)**

Prepared: 01/04/21 Analyzed: 01/05/21

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.116		"	0.120		96.9	80-120			
Surrogate: 4-Bromofluorobenzene	0.105		"	0.120		87.1	80-120			

**LCS (P1A0401-BS1)**

Prepared: 01/04/21 Analyzed: 01/05/21

Benzene	0.117	0.00100	mg/kg wet	0.100		117	70-130			
Toluene	0.105	0.00100	"	0.100		105	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.187	0.00200	"	0.200		93.3	70-130			
Xylene (o)	0.0914	0.00100	"	0.100		91.4	70-130			
Surrogate: 1,4-Difluorobenzene	0.132		"	0.120		110	80-120			
Surrogate: 4-Bromofluorobenzene	0.114		"	0.120		95.1	80-120			

**LCS Dup (P1A0401-BSD1)**

Prepared: 01/04/21 Analyzed: 01/05/21

Benzene	0.102	0.00100	mg/kg wet	0.100		102	70-130	13.3	20	
Toluene	0.0892	0.00100	"	0.100		89.2	70-130	16.0	20	
Ethylbenzene	0.103	0.00100	"	0.100		103	70-130	8.71	20	
Xylene (p/m)	0.160	0.00200	"	0.200		80.2	70-130	15.1	20	
Xylene (o)	0.0810	0.00100	"	0.100		81.0	70-130	12.0	20	
Surrogate: 1,4-Difluorobenzene	0.128		"	0.120		107	80-120			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.0	80-120			

**Calibration Check (P1A0401-CCV2)**

Prepared: 01/04/21 Analyzed: 01/06/21

Benzene	0.117	0.00100	mg/kg wet	0.100		117	80-120			
Toluene	0.112	0.00100	"	0.100		112	80-120			
Ethylbenzene	0.117	0.00100	"	0.100		117	80-120			
Xylene (p/m)	0.197	0.00200	"	0.200		98.5	80-120			
Xylene (o)	0.103	0.00100	"	0.100		103	80-120			
Surrogate: 4-Bromofluorobenzene	0.115		"	0.120		95.6	75-125			
Surrogate: 1,4-Difluorobenzene	0.125		"	0.120		104	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0401 - General Preparation (GC)**

<b>Matrix Spike (P1A0401-MS1)</b>		<b>Source: 0L30003-05</b>		Prepared: 01/04/21		Analyzed: 01/05/21	
Benzene	2.63	0.0230	mg/kg dry	2.30	0.0411	112	80-120
Toluene	2.75	0.0230	"	2.30	0.0598	117	80-120
Ethylbenzene	2.65	0.0230	"	2.30	ND	115	80-120
Xylene (p/m)	5.40	0.0460	"	4.60	ND	117	80-120
Xylene (o)	2.71	0.0230	"	2.30	ND	118	80-120
Surrogate: 4-Bromofluorobenzene	0.144		"	0.138		105	80-120
Surrogate: 1,4-Difluorobenzene	0.145		"	0.138		105	80-120

Matrix Spike Dup (P1A0401-MSD1)	Source: 0L30003-05			Prepared: 01/04/21		Analyzed: 01/05/21			
Benzene	2.70	0.0230	mg/kg dry	2.30	0.0411	116	80-120	2.98	20
Toluene	2.73	0.0230	"	2.30	0.0598	116	80-120	0.574	20
Ethylbenzene	2.69	0.0230	"	2.30	ND	117	80-120	1.81	20
Xylene (p/m)	5.37	0.0460	"	4.60	ND	117	80-120	0.581	20
Xylene (o)	2.71	0.0230	"	2.30	ND	118	80-120	0.102	20
Surrogate: 4-Bromofluorobenzene	0.157		"	0.138		114	80-120		
Surrogate: 1,4-Difluorobenzene	0.137		"	0.138		99.4	80-120		

Permian Basin Environmental Lab, L.P.

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Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P0L3102 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P0L3102-BLK1)**

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	ND	1.00	mg/kg wet
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**LCS (P0L3102-BS1)**

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	408	1.00	mg/kg wet	400	102	90-110
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**LCS Dup (P0L3102-BSD1)**

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	407	1.00	mg/kg wet	400	102	90-110	0.216	20
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**Calibration Check (P0L3102-CCV1)**

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	21.5		mg/kg	20.0	108	90-110
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**Calibration Check (P0L3102-CCV2)**

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	21.1		mg/kg	20.0	105	90-110
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**Calibration Check (P0L3102-CCV3)**

Prepared: 12/31/20 Analyzed: 01/05/21

Chloride	20.7		mg/kg	20.0	104	90-110
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**Matrix Spike (P0L3102-MS1)**

Source: 0L29014-04

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	5550	10.2	mg/kg dry	1020	4330	119	80-120
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**Matrix Spike (P0L3102-MS2)**

Source: 0L29015-05

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	4110	30.9	mg/kg dry	3090	310	123	80-120
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**Matrix Spike Dup (P0L3102-MSD1)**

Source: 0L29014-04

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	5560	10.2	mg/kg dry	1020	4330	121	80-120	0.259	20
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**Matrix Spike Dup (P0L3102-MSD2)**

Source: 0L29015-05

Prepared: 12/31/20 Analyzed: 01/04/21

Chloride	4250	30.9	mg/kg dry	3090	310	128	80-120	3.37	20
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P0L3104 - \*\*\* DEFAULT PREP \*\*\*****Blank (P0L3104-BLK1)**

Prepared &amp; Analyzed: 12/31/20

% Moisture	ND	0.1	%
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**Duplicate (P0L3104-DUP1)****Source: 0L30003-04**

Prepared &amp; Analyzed: 12/31/20

% Moisture	11.0	0.1	%	12.0	8.70	20
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**Batch P1A0502 - \*\*\* DEFAULT PREP \*\*\*****Blank (P1A0502-BLK1)**

Prepared &amp; Analyzed: 01/05/21

Chloride	ND	1.00	mg/kg wet
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**LCS (P1A0502-BS1)**

Prepared &amp; Analyzed: 01/05/21

Chloride	410	1.00	mg/kg wet	400	103	90-110
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**LCS Dup (P1A0502-BSD1)**

Prepared &amp; Analyzed: 01/05/21

Chloride	409	1.00	mg/kg wet	400	102	90-110	0.242	20
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**Calibration Check (P1A0502-CCV1)**

Prepared &amp; Analyzed: 01/05/21

Chloride	21.3		mg/kg	20.0	107	90-110
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**Calibration Check (P1A0502-CCV2)**

Prepared &amp; Analyzed: 01/05/21

Chloride	20.6		mg/kg	20.0	103	90-110
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**Calibration Check (P1A0502-CCV3)**

Prepared &amp; Analyzed: 01/05/21

Chloride	21.0		mg/kg	20.0	105	90-110
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**Matrix Spike (P1A0502-MS1)****Source: 0L30003-03**

Prepared &amp; Analyzed: 01/05/21

Chloride	608	1.11	mg/kg dry	556	8.07	108	80-120
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0502 - \*\*\* DEFAULT PREP \*\*\***

<b>Matrix Spike (P1A0502-MS2)</b>		<b>Source: 1A04003-05</b>		Prepared & Analyzed: 01/05/21						
Chloride	1260	1.03	mg/kg dry	515	890	71.6	80-120			QM-05
<b>Matrix Spike Dup (P1A0502-MSD1)</b>		<b>Source: 0L30003-03</b>		Prepared & Analyzed: 01/05/21						
Chloride	584	1.11	mg/kg dry	556	8.07	104	80-120	3.92	20	
<b>Matrix Spike Dup (P1A0502-MSD2)</b>		<b>Source: 1A04003-05</b>		Prepared & Analyzed: 01/05/21						
Chloride	1220	1.03	mg/kg dry	515	890	63.5	80-120	3.40	20	QM-05

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

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

**Batch P0L3103 - TX 1005****Blank (P0L3103-BLK1)**

Prepared: 12/31/20 Analyzed: 01/04/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	67.1		"	50.0		134	70-130			S-GC

**LCS (P0L3103-BS1)**

Prepared: 12/31/20 Analyzed: 01/04/21

C6-C12	1070	25.0	mg/kg wet	1000		107	75-125			
>C12-C28	1220	25.0	"	1000		122	75-125			
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	65.7		"	50.0		131	70-130			S-GC

**LCS Dup (P0L3103-BSD1)**

Prepared: 12/31/20 Analyzed: 01/04/21

C6-C12	1060	25.0	mg/kg wet	1000		106	75-125	0.781	20	
>C12-C28	1220	25.0	"	1000		122	75-125	0.0605	20	
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	65.9		"	50.0		132	70-130			S-GC

**Calibration Check (P0L3103-CCV1)**

Prepared: 12/31/20 Analyzed: 01/04/21

C6-C12	540	25.0	mg/kg wet	500		108	85-115			
>C12-C28	564	25.0	"	500		113	85-115			
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	65.7		"	50.0		131	70-130			S-GC

**Calibration Check (P0L3103-CCV2)**

Prepared: 12/31/20 Analyzed: 01/05/21

C6-C12	551	25.0	mg/kg wet	500		110	85-115			
>C12-C28	563	25.0	"	500		113	85-115			
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	63.7		"	50.0		127	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P0L3103 - TX 1005****Calibration Check (P0L3103-CCV3)**

Prepared: 12/31/20 Analyzed: 01/05/21

C6-C12	530	25.0	mg/kg wet	500		106	85-115			
>C12-C28	565	25.0	"	500		113	85-115			
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	64.2		"	50.0		128	70-130			

**Matrix Spike (P0L3103-MS1)**

Source: 0L29015-10

Prepared: 12/31/20 Analyzed: 01/05/21

C6-C12	1100	26.3	mg/kg dry	1050	ND	105	75-125			
>C12-C28	1270	26.3	"	1050	13.6	120	75-125			
Surrogate: 1-Chlorooctane	114		"	105		108	70-130			
Surrogate: o-Terphenyl	65.2		"	52.6		124	70-130			

**Matrix Spike Dup (P0L3103-MSD1)**

Source: 0L29015-10

Prepared: 12/31/20 Analyzed: 01/05/21

C6-C12	1100	26.3	mg/kg dry	1050	ND	104	75-125	0.633	20	
>C12-C28	1270	26.3	"	1050	13.6	119	75-125	0.323	20	
Surrogate: 1-Chlorooctane	115		"	105		110	70-130			
Surrogate: o-Terphenyl	65.1		"	52.6		124	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

### Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

ROI Received on Ice

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

1/8/2021

Brent Barron, Laboratory Director/Technical Director

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If you have received this material in error, please notify us immediately at 432-686-7235.

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean 12600 W County Rd 91 Midland TX, 79707	Project: COG Screwdriver Release Project Number: PP-2180 Project Manager: Sylwia Reynolds	Fax:
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



**PBB LAB****CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST**

Permian Basin Environmental Lab, LP  
1400 Rankin Hwy  
Midland, Texas 79701

Phone: 432-686-7235

PG 1 of 1

Project Manager: Sylvia ReynoldsCompany Name: DeanCompany Address: 12600 WCR 91City/State/Zip: Midland TX 79707Telephone No: 432-230-0920Sampler Signature: Robert Belloc

Fax No: \_\_\_\_\_

e-mail: \_\_\_\_\_

sylvia.reynolds@deandigs.com  
jeffkindley@deandigs.com  
kaylanlongee@deanequip.com

Project Name: COG SCREWDRIER RELEASEProject #: PP-2180Project Loc: Eddy County, New Mexico

AFE/ SRS#: \_\_\_\_\_

Report Format: ☒ Standard ☐ TRRP ☐ NPDESelizabethstuart@deandigs.comalroves@paalp.com

Analyze For:

(lab use only)  
ORDER #: 0130003

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub> 250, ml Poly	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None 1L Poly	NaOH/ZnAc	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH TX1005 EXT (TEXAS)	BTEX 8021 B	TCLP BENZENE	CHLORIDES	TCLP METALS	NORM	PAINT FILTER	TOX	RCI	pH	TPH 8015 M (NEW MEXICO)	7 Day TAT	24 hour TAT
1	AH-1 @ 1'	1 FT	1 FT	12/30/20	8:45AM		1	X										X											
2	AH-1 @ 3'	3 FT	3 FT	12/30/20	8:55AM		1	X											X										
3	AH-1 @ 5'	5 FT	5 FT	12/30/20	9:05AM		1	X												X									
4	AH-1 @ 7'	7 FT	7 FT	12/30/20	9:15AM		1	X																					
5	AH-1 @ 9'	9 FT	9 FT	12/30/20	9:25AM		1	X																					
6	AH-1 @ 11'	11 FT	11 FT	12/30/20	9:35AM		1	X																					
7	AH-1 @ 13'	13 FT	13 FT	12/30/20	9:40AM		1	X																					

**Special Instructions:**

\* Run deeper sample for each auger hole if TPH DRO/GRO Concentrations are equal to or greater than 1,000 mg/kg and/or if total TPH is 2,500 mg/kg or greater. If Benzene PPM is greater than or equal to 10 and 50 for total BTEX, run deeper auger hole. If Chloride Concentrations are greater than or equal to 20,000 mg/kg, run deeper samples.

Relinquished by: \_\_\_\_\_

Date

Time

Date

Time

Relinquished by: \_\_\_\_\_

Date

Time

Date

Time

Relinquished by: \_\_\_\_\_

Date

Time

Date

Time

**Laboratory Comments:**

Sample Containers: intact?  
VOCs Free of Headspaces?

Labels on containers (s)  
Custody seals on containers (s)  
Custody seals on coolers (s)

Sample Hand Delivered

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone StarTemperature Upon Receipt: 4.8 °CAdjusted: 0.912

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



# Analytical Report

**Prepared for:**

Sylwia Reynolds  
Dean  
12600 W County Rd 91  
Midland, TX 79707

Project: COG Screwdriver Release

Project Number: PP-2180

Location: Eddy County, NM

Lab Order Number: 1A06004



NELAP/TCEQ # T104704516-17-8

Report Date: 01/13/21

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-1H @ 1'	1A06004-01	Soil	01/04/21 10:59	01-06-2021 15:58
AH-1H @ 3'	1A06004-02	Soil	01/04/21 11:05	01-06-2021 15:58
AH-2 @ 1'	1A06004-03	Soil	01/04/21 09:05	01-06-2021 15:58
AH-2 @ 3'	1A06004-04	Soil	01/04/21 09:15	01-06-2021 15:58
AH-2 @ 5'	1A06004-05	Soil	01/04/21 09:25	01-06-2021 15:58
AH-2H @ 1'	1A06004-06	Soil	01/04/21 13:09	01-06-2021 15:58
AH-2H @ 3'	1A06004-07	Soil	01/04/21 13:15	01-06-2021 15:58
AH-2H @ 5'	1A06004-08	Soil	01/04/21 13:19	01-06-2021 15:58
AH-2H @ 7'	1A06004-09	Soil	01/04/21 13:28	01-06-2021 15:58
AH-2H @ 9'	1A06004-10	Soil	01/04/21 13:34	01-06-2021 15:58
AH-2H @ 11'	1A06004-11	Soil	01/04/21 13:41	01-06-2021 15:58
AH-3 @ 1'	1A06004-12	Soil	01/04/21 13:10	01-06-2021 15:58
AH-3 @ 3'	1A06004-13	Soil	01/04/21 13:17	01-06-2021 15:58
AH-3H @ 1'	1A06004-14	Soil	01/04/21 13:54	01-06-2021 15:58
AH-3H @ 3'	1A06004-15	Soil	01/04/21 13:57	01-06-2021 15:58
AH-4 @ 1'	1A06004-16	Soil	01/05/21 10:13	01-06-2021 15:58
AH-4 @ 3'	1A06004-17	Soil	01/05/21 10:17	01-06-2021 15:58
AH-4H @ 1'	1A06004-18	Soil	01/05/21 11:44	01-06-2021 15:58
AH-4H @ 3'	1A06004-19	Soil	01/05/21 11:49	01-06-2021 15:58
AH-5 @ 1'	1A06004-20	Soil	01/05/21 10:24	01-06-2021 15:58
AH-5 @ 3'	1A06004-21	Soil	01/05/21 10:30	01-06-2021 15:58
AH-5H @ 1'	1A06004-22	Soil	01/05/21 12:55	01-06-2021 15:58
AH-5H @ 3'	1A06004-23	Soil	01/05/21 12:59	01-06-2021 15:58
AH-6 @ 1'	1A06004-24	Soil	01/05/21 10:37	01-06-2021 15:58
AH-6 @ 3'	1A06004-25	Soil	01/05/21 10:42	01-06-2021 15:58
AH-7 @ 1'	1A06004-26	Soil	01/05/21 10:52	01-06-2021 15:58
AH-7 @ 3'	1A06004-27	Soil	01/05/21 10:56	01-06-2021 15:58
AH-7 @ 5'	1A06004-28	Soil	01/05/21 11:00	01-06-2021 15:58
AH-7 @ 7'	1A06004-29	Soil	01/05/21 11:05	01-06-2021 15:58
AH-7 @ 9'	1A06004-30	Soil	01/05/21 11:13	01-06-2021 15:58
AH-7 @ 11'	1A06004-31	Soil	01/05/21 11:22	01-06-2021 15:58
AH-8 @ 1'	1A06004-32	Soil	01/05/21 13:13	01-06-2021 15:58
AH-8 @ 3'	1A06004-33	Soil	01/05/21 13:18	01-06-2021 15:58
AH-8 @ 5'	1A06004-34	Soil	01/05/21 13:22	01-06-2021 15:58

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-8 @ 7'	1A06004-35	Soil	01/05/21 13:28	01-06-2021 15:58
AH-8 @ 9'	1A06004-36	Soil	01/05/21 13:31	01-06-2021 15:58
NW-1	1A06004-37	Soil	01/05/21 14:00	01-06-2021 15:58

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1H @ 1'**  
**1A06004-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0262</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B
<b>Toluene</b>	<b>0.290</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B
<b>Ethylbenzene</b>	<b>0.372</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B
<b>Xylene (p/m)</b>	<b>0.663</b>	0.0417	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B
<b>Xylene (o)</b>	<b>0.167</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B
Surrogate: 4-Bromofluorobenzene		105 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B
Surrogate: 1,4-Difluorobenzene		84.6 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>16.8</b>	1.04	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>42.9</b>	26.0	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M
<b>&gt;C12-C28</b>	<b>355</b>	26.0	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M
<b>&gt;C28-C35</b>	<b>52.1</b>	26.0	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M
Surrogate: 1-Chlorooctane		98.0 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M
Surrogate: o-Terphenyl		105 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>450</b>	26.0	mg/kg dry	1	[CALC]	01/07/21	01/08/21	calc

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-1H @ 3'**  
**1A06004-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	10.2	1.03	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
% Moisture	3.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2 @ 1'**  
**1A06004-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0157</b>	0.00114	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Toluene</b>	<b>0.0370</b>	0.00114	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.0152</b>	0.00114	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.0216</b>	0.00227	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00636</b>	0.00114	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		88.3 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>47.2</b>	1.14	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>12.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>ND</b>	28.4	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>126</b>	28.4	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>ND</b>	28.4	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		89.3 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		97.7 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>126</b>	28.4	mg/kg dry	1	[CALC]	01/07/21	01/08/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2 @ 3'**  
**1A06004-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	14.0	1.08	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
% Moisture	7.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2 @ 5'**  
**1A06004-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	16.6	1.09	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0
% Moisture	8.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2H @ 1'**  
**1A06004-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>324</b>	5.49	mg/kg dry	5000	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Toluene</b>	<b>918</b>	5.49	mg/kg dry	5000	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>509</b>	5.49	mg/kg dry	5000	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>664</b>	11.0	mg/kg dry	5000	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (o)</b>	<b>159</b>	5.49	mg/kg dry	5000	P1A0803	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		93.4 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>112</b>	1.10	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>9.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>16800</b>	275	mg/kg dry	10	P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>16400</b>	275	mg/kg dry	10	P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>2460</b>	275	mg/kg dry	10	P1A0704	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		160 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		99.8 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>35600</b>	275	mg/kg dry	10	[CALC]	01/07/21	01/08/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2H @ 3'**  
**1A06004-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0468</b>	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Toluene</b>	<b>0.194</b>	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.354</b>	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.527</b>	0.00211	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.197</b>	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.6 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		71.4 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>6.48</b>	1.05	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>104</b>	26.3	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>402</b>	26.3	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>58.3</b>	26.3	mg/kg dry	1	P1A0704	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		96.0 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		99.3 %	70-130		P1A0704	01/07/21	01/08/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>565</b>	26.3	mg/kg dry	1	[CALC]	01/07/21	01/08/21	calc	

Permian Basin Environmental Lab, L.P.

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Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2H @ 5'**  
**1A06004-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	11.7	1.06	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0
% Moisture	6.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2H @ 7'**  
**1A06004-09 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	14.6	1.06	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0
% Moisture	6.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-2H @ 9'**  
**1A06004-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	7.30	1.06	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
% Moisture	6.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean	Project: COG Screwdriver Release	Fax:
12600 W County Rd 91	Project Number: PP-2180	
Midland TX, 79707	Project Manager: Sylwia Reynolds	

AH-2H @ 11'  
1A06004-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods									
Chloride	9.95	1.09	mg/kg dry	1	P1A0701	01/07/21	01/07/21	EPA 300.0	
% Moisture	8.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-3 @ 1'**  
**1A06004-12 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.174</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Toluene</b>	<b>1.94</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>3.53</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>5.55</b>	0.0417	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Xylene (o)</b>	<b>1.59</b>	0.0208	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		91.9 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		73.5 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>92.7</b>	1.04	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>131</b>	26.0	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>499</b>	26.0	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>61.1</b>	26.0	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		99.5 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		100 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>691</b>	26.0	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-3 @ 3'**  
**1A06004-13 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	46.1	1.04	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0
% Moisture	4.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-3H @ 1'**  
**1A06004-14 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.208</b>	0.0230	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Toluene</b>	<b>4.23</b>	0.0230	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>6.29</b>	0.0230	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>9.24</b>	0.0460	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Xylene (o)</b>	<b>2.76</b>	0.0230	mg/kg dry	20	P1A0803	01/08/21	01/08/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.9 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	S-GC
<i>Surrogate: 1,4-Difluorobenzene</i>		84.5 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>54.4</b>	1.15	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>13.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>355</b>	28.7	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>964</b>	28.7	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>129</b>	28.7	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		105 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>1450</b>	28.7	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-3H @ 3'**  
**1A06004-15 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>26.4</b>	1.08	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M
>C12-C28	<b>35.9</b>	26.9	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M
>C28-C35	ND	26.9	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M
Surrogate: 1-Chlorooctane		93.8 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M
Surrogate: o-Terphenyl		100 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>35.9</b>	26.9	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-4 @ 1'**  
**1A06004-16 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0135</b>	0.00106	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Toluene</b>	<b>0.00984</b>	0.00106	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00189</b>	0.00106	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		97.4 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.06	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: 1-Chlorooctane		92.9 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: o-Terphenyl		99.4 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean	Project: COG Screwdriver Release	Fax:
12600 W County Rd 91	Project Number: PP-2180	
Midland TX, 79707	Project Manager: Sylwia Reynolds	

AH-4 @ 3'  
1A06004-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods									
Chloride	7.93	1.05	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0	
% Moisture	5.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-4H @ 1'**  
**1A06004-18 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.00225</b>	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
<b>Toluene</b>	<b>0.00287</b>	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P1A0803	01/08/21	01/11/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		99.5 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.8 %	80-120		P1A0803	01/08/21	01/11/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>43.5</b>	1.05	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.3	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: 1-Chlorooctane		92.1 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean	Project: COG Screwdriver Release	Fax:
12600 W County Rd 91	Project Number: PP-2180	
Midland TX, 79707	Project Manager: Sylwia Reynolds	

AH-4H @ 3'  
1A06004-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods									
Chloride	75.3	1.12	mg/kg dry	1	P1A0702	01/07/21	01/07/21	EPA 300.0	
% Moisture	11.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-5 @ 1'**  
**1A06004-20 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0127</b>	0.00103	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Toluene</b>	<b>0.00944</b>	0.00103	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00126</b>	0.00103	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P1A0803	01/08/21	01/08/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.5 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		95.8 %	80-120		P1A0803	01/08/21	01/08/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>12.1</b>	1.03	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: 1-Chlorooctane		95.0 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: o-Terphenyl		104 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-5 @ 3'**  
**1A06004-21 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>14.1</b>	1.09	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-5H @ 1'**  
**1A06004-22 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.00205</b>	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/08/21	EPA 8021B	
<b>Toluene</b>	<b>0.00324</b>	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/08/21	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/08/21	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P1A0804	01/08/21	01/08/21	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/08/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.0 %	80-120		P1A0804	01/08/21	01/08/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		93.9 %	80-120		P1A0804	01/08/21	01/08/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>24.6</b>	1.06	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: 1-Chlorooctane		93.9 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-5H @ 3'**  
**1A06004-23 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	35.6	1.11	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
% Moisture	10.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-6 @ 1'**  
**1A06004-24 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.00889</b>	0.00104	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>0.00581</b>	0.00104	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		95.4 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.7 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>41.2</b>	1.04	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.0	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: 1-Chlorooctane		94.9 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Surrogate: o-Terphenyl		101 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean	Project: COG Screwdriver Release	Fax:
12600 W County Rd 91	Project Number: PP-2180	
Midland TX, 79707	Project Manager: Sylwia Reynolds	

AH-6 @ 3'  
1A06004-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods									
Chloride	91.0	1.08	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
% Moisture	7.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-7 @ 1'**  
**1A06004-26 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>14.8</b>	0.115	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>36.1</b>	0.115	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>41.3</b>	0.115	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>54.9</b>	0.230	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (o)</b>	<b>17.5</b>	0.115	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		91.8 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		68.1 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>48.9</b>	1.15	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>13.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>2590</b>	144	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>4450</b>	144	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>533</b>	144	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		101 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		102 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>7580</b>	144	mg/kg dry	5	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-7 @ 3'**  
**1A06004-27 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>9.93</b>	0.105	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>40.0</b>	0.105	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>41.6</b>	0.105	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>65.6</b>	0.211	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (o)</b>	<b>19.6</b>	0.105	mg/kg dry	100	P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		66.2 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	S-GC
<i>Surrogate: 1,4-Difluorobenzene</i>		88.6 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>16.6</b>	1.05	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>3260</b>	132	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>5740</b>	132	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>806</b>	132	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		108 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		107 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>9800</b>	132	mg/kg dry	5	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-7 @ 5'**  
**1A06004-28 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>55.5</b>	0.538	mg/kg dry	500	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Toluene</b>	<b>160</b>	0.538	mg/kg dry	500	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>146</b>	0.538	mg/kg dry	500	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>190</b>	1.08	mg/kg dry	500	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (o)</b>	<b>53.9</b>	0.538	mg/kg dry	500	P1A0804	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		97.4 %		80-120	P1A0804	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		80-120	P1A0804	01/08/21	01/11/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>19.6</b>	1.08	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>4470</b>	134	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>6620</b>	134	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>956</b>	134	mg/kg dry	5	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		114 %		70-130	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		108 %		70-130	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>12000</b>	134	mg/kg dry	5	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-7 @ 7'**  
**1A06004-29 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0124</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>0.293</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.410</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.663</b>	0.00211	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.233</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		87.0 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		65.6 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>18.5</b>	1.05	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>72.0</b>	26.3	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>468</b>	26.3	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>65.6</b>	26.3	mg/kg dry	1	P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		98.6 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		103 %	70-130		P1A0705	01/07/21	01/09/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>606</b>	26.3	mg/kg dry	1	[CALC]	01/07/21	01/09/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-7 @ 9'**  
**1A06004-30 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	13.2	1.06	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
% Moisture	6.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-7 @ 11'**  
**1A06004-31 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	16.9	1.10	mg/kg dry	1	P1A0702	01/07/21	01/08/21	EPA 300.0	
% Moisture	9.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-8 @ 1'**  
**1A06004-32 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0568</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>0.238</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.357</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.468</b>	0.00211	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.172</b>	0.00105	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		73.6 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	S-GC
<i>Surrogate: 1,4-Difluorobenzene</i>		94.5 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>127</b>	1.05	mg/kg dry	1	P1A0802	01/08/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>87.5</b>	26.3	mg/kg dry	1	P1A0706	01/07/21	01/07/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>472</b>	26.3	mg/kg dry	1	P1A0706	01/07/21	01/07/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>50.2</b>	26.3	mg/kg dry	1	P1A0706	01/07/21	01/07/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		93.9 %	70-130		P1A0706	01/07/21	01/07/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		100 %	70-130		P1A0706	01/07/21	01/07/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>610</b>	26.3	mg/kg dry	1	[CALC]	01/07/21	01/07/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean	Project: COG Screwdriver Release	Fax:
12600 W County Rd 91	Project Number: PP-2180	
Midland TX, 79707	Project Manager: Sylwia Reynolds	

AH-8 @ 3'  
1A06004-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods									
Chloride	18.6	1.04	mg/kg dry	1	P1A0802	01/08/21	01/08/21	EPA 300.0	
% Moisture	4.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-8 @ 5'**  
**1A06004-34 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0355</b>	0.00108	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>0.0286</b>	0.00108	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00905</b>	0.00108	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.0103</b>	0.00215	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00459</b>	0.00108	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.6 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.8 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>6.19</b>	1.08	mg/kg dry	1	P1A0802	01/08/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		97.5 %	70-130		P1A0706	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		107 %	70-130		P1A0706	01/07/21	01/08/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	01/07/21	01/08/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-8 @ 7'**  
**1A06004-35 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	9.14	1.05	mg/kg dry	1	P1A0802	01/08/21	01/08/21	EPA 300.0	
% Moisture	5.0	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**AH-8 @ 9'**  
**1A06004-36 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0130</b>	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Toluene</b>	<b>0.0162</b>	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00335</b>	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.00464</b>	0.00213	mg/kg dry	1	P1A0804	01/08/21	01/11/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00151</b>	0.00106	mg/kg dry	1	P1A0804	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		96.8 %	80-120		P1A0804	01/08/21	01/11/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.3 %	80-120		P1A0804	01/08/21	01/11/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>7.35</b>	1.06	mg/kg dry	1	P1A0802	01/08/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>6.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.6	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		102 %	70-130		P1A0706	01/07/21	01/08/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		113 %	70-130		P1A0706	01/07/21	01/08/21	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	01/07/21	01/08/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**NW-1**  
**1A06004-37 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.0463</b>	0.00103	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Toluene</b>	<b>0.00895</b>	0.00103	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00154</b>	0.00103	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P1A0804	01/08/21	01/09/21	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.9 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		97.2 %	80-120		P1A0804	01/08/21	01/09/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>56.8</b>	1.03	mg/kg dry	1	P1A0802	01/08/21	01/08/21	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	0.1	%	1	P1A0805	01/08/21	01/08/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>108</b>	25.8	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P1A0706	01/07/21	01/08/21	TPH 8015M	
Surrogate: 1-Chlorooctane		96.4 %	70-130		P1A0706	01/07/21	01/08/21	TPH 8015M	
Surrogate: o-Terphenyl		106 %	70-130		P1A0706	01/07/21	01/08/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>108</b>	25.8	mg/kg dry	1	[CALC]	01/07/21	01/08/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0803 - General Preparation (GC)****Blank (P1A0803-BLK1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.111		"	0.120		92.4	80-120			
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		90.2	80-120			

**LCS (P1A0803-BS1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.110	0.00100	mg/kg wet	0.100		110	70-130			
Toluene	0.110	0.00100	"	0.100		110	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.235	0.00200	"	0.200		117	70-130			
Xylene (o)	0.118	0.00100	"	0.100		118	70-130			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		93.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.113		"	0.120		93.9	80-120			

**LCS Dup (P1A0803-BSD1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.106	0.00100	mg/kg wet	0.100		106	70-130	3.44	20	
Toluene	0.103	0.00100	"	0.100		103	70-130	6.08	20	
Ethylbenzene	0.103	0.00100	"	0.100		103	70-130	8.03	20	
Xylene (p/m)	0.234	0.00200	"	0.200		117	70-130	0.397	20	
Xylene (o)	0.119	0.00100	"	0.100		119	70-130	0.278	20	
Surrogate: 4-Bromofluorobenzene	0.109		"	0.120		91.0	80-120			
Surrogate: 1,4-Difluorobenzene	0.107		"	0.120		89.2	80-120			

**Calibration Check (P1A0803-CCV1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.103	0.00100	mg/kg wet	0.100		103	80-120			
Toluene	0.102	0.00100	"	0.100		102	80-120			
Ethylbenzene	0.107	0.00100	"	0.100		107	80-120			
Xylene (p/m)	0.235	0.00200	"	0.200		118	80-120			
Xylene (o)	0.114	0.00100	"	0.100		114	80-120			
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		90.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.108		"	0.120		89.9	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0803 - General Preparation (GC)****Calibration Check (P1A0803-CCV2)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.109	0.00100	mg/kg wet	0.100		109	80-120			
Toluene	0.110	0.00100	"	0.100		110	80-120			
Ethylbenzene	0.105	0.00100	"	0.100		105	80-120			
Xylene (p/m)	0.236	0.00200	"	0.200		118	80-120			
Xylene (o)	0.116	0.00100	"	0.100		116	80-120			
Surrogate: 1,4-Difluorobenzene	0.119		"	0.120		99.1	75-125			
Surrogate: 4-Bromofluorobenzene	0.114		"	0.120		95.0	75-125			

**Calibration Check (P1A0803-CCV3)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.111	0.00100	mg/kg wet	0.100		111	80-120			
Toluene	0.117	0.00100	"	0.100		117	80-120			
Ethylbenzene	0.119	0.00100	"	0.100		119	80-120			
Xylene (p/m)	0.237	0.00200	"	0.200		119	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.2	75-125			

**Matrix Spike (P1A0803-MS1)**

Source: 1A06004-20

Prepared &amp; Analyzed: 01/08/21

Benzene	0.0901	0.00103	mg/kg dry	0.103	0.0127	75.1	80-120			QM-07
Toluene	0.0996	0.00103	"	0.103	0.00944	87.5	80-120			
Ethylbenzene	0.111	0.00103	"	0.103	0.00126	107	80-120			
Xylene (p/m)	0.207	0.00206	"	0.206	0.00107	99.7	80-120			
Xylene (o)	0.101	0.00103	"	0.103	ND	98.2	80-120			
Surrogate: 4-Bromofluorobenzene	0.204		"	0.124		165	80-120			S-GC
Surrogate: 1,4-Difluorobenzene	0.117		"	0.124		94.2	80-120			

**Matrix Spike Dup (P1A0803-MSD1)**

Source: 1A06004-20

Prepared &amp; Analyzed: 01/08/21

Benzene	0.0801	0.00103	mg/kg dry	0.103	0.0127	65.4	80-120	13.9	20	QM-07
Toluene	0.0799	0.00103	"	0.103	0.00944	68.3	80-120	24.6	20	QM-07
Ethylbenzene	0.0897	0.00103	"	0.103	0.00126	85.8	80-120	21.7	20	QM-07
Xylene (p/m)	0.174	0.00206	"	0.206	0.00107	83.6	80-120	17.5	20	
Xylene (o)	0.0857	0.00103	"	0.103	ND	83.1	80-120	16.6	20	
Surrogate: 1,4-Difluorobenzene	0.113		"	0.124		91.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.122		"	0.124		98.5	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0804 - General Preparation (GC)****Blank (P1A0804-BLK1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.115		"	0.120		95.9	80-120			
Surrogate: 1,4-Difluorobenzene	0.110		"	0.120		91.5	80-120			

**LCS (P1A0804-BS1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.103	0.00100	mg/kg wet	0.100		103	70-130			
Toluene	0.101	0.00100	"	0.100		101	70-130			
Ethylbenzene	0.102	0.00100	"	0.100		102	70-130			
Xylene (p/m)	0.230	0.00200	"	0.200		115	70-130			
Xylene (o)	0.116	0.00100	"	0.100		116	70-130			
Surrogate: 1,4-Difluorobenzene	0.110		"	0.120		91.7	80-120			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.0	80-120			

**LCS Dup (P1A0804-BSD1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.0947	0.00100	mg/kg wet	0.100		94.7	70-130	8.52	20	
Toluene	0.0921	0.00100	"	0.100		92.1	70-130	8.95	20	
Ethylbenzene	0.106	0.00100	"	0.100		106	70-130	3.49	20	
Xylene (p/m)	0.208	0.00200	"	0.200		104	70-130	9.88	20	
Xylene (o)	0.105	0.00100	"	0.100		105	70-130	10.1	20	
Surrogate: 1,4-Difluorobenzene	0.115		"	0.120		95.6	80-120			
Surrogate: 4-Bromofluorobenzene	0.123		"	0.120		103	80-120			

**Calibration Check (P1A0804-CCV1)**

Prepared &amp; Analyzed: 01/08/21

Benzene	0.111	0.00100	mg/kg wet	0.100		111	80-120			
Toluene	0.117	0.00100	"	0.100		117	80-120			
Ethylbenzene	0.119	0.00100	"	0.100		119	80-120			
Xylene (p/m)	0.237	0.00200	"	0.200		119	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 4-Bromofluorobenzene	0.118		"	0.120		98.2	75-125			
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.4	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0804 - General Preparation (GC)****Calibration Check (P1A0804-CCV2)**

Prepared: 01/08/21 Analyzed: 01/09/21

Benzene	0.107	0.00100	mg/kg wet	0.100		107	80-120			
Toluene	0.114	0.00100	"	0.100		114	80-120			
Ethylbenzene	0.114	0.00100	"	0.100		114	80-120			
Xylene (p/m)	0.231	0.00200	"	0.200		116	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 1,4-Difluorobenzene	0.117		"	0.120		97.3	75-125			
Surrogate: 4-Bromofluorobenzene	0.109		"	0.120		90.8	75-125			

**Calibration Check (P1A0804-CCV3)**

Prepared: 01/08/21 Analyzed: 01/09/21

Benzene	0.109	0.00100	mg/kg wet	0.100		109	80-120			
Toluene	0.111	0.00100	"	0.100		111	80-120			
Ethylbenzene	0.109	0.00100	"	0.100		109	80-120			
Xylene (p/m)	0.239	0.00200	"	0.200		120	80-120			
Xylene (o)	0.120	0.00100	"	0.100		120	80-120			
Surrogate: 1,4-Difluorobenzene	0.108		"	0.120		90.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.113		"	0.120		94.2	75-125			

**Matrix Spike (P1A0804-MS1)**

Source: 1A06004-21

Prepared: 01/08/21 Analyzed: 01/09/21

Benzene	0.0860	0.00109	mg/kg dry	0.109	0.0179	62.6	80-120			QM-07
Toluene	0.0932	0.00109	"	0.109	0.0103	76.2	80-120			QM-07
Ethylbenzene	0.105	0.00109	"	0.109	0.00120	95.7	80-120			
Xylene (p/m)	0.194	0.00217	"	0.217	0.00109	88.5	80-120			
Xylene (o)	0.0933	0.00109	"	0.109	ND	85.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.312		"	0.130		239	80-120			S-GC
Surrogate: 1,4-Difluorobenzene	0.125		"	0.130		95.5	80-120			

**Matrix Spike Dup (P1A0804-MSD1)**

Source: 1A06004-21

Prepared: 01/08/21 Analyzed: 01/09/21

Benzene	0.0865	0.00109	mg/kg dry	0.109	0.0179	63.1	80-120	0.827	20	QM-07
Toluene	0.0911	0.00109	"	0.109	0.0103	74.3	80-120	2.55	20	QM-07
Ethylbenzene	0.102	0.00109	"	0.109	0.00120	93.2	80-120	2.68	20	
Xylene (p/m)	0.192	0.00217	"	0.217	0.00109	88.0	80-120	0.566	20	
Xylene (o)	0.0955	0.00109	"	0.109	ND	87.8	80-120	2.35	20	
Surrogate: 1,4-Difluorobenzene	0.124		"	0.130		95.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.131		"	0.130		100	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0701 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P1A0701-BLK1)**

Prepared & Analyzed: 01/07/21

Chloride	ND	1.00	mg/kg wet
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**LCS (P1A0701-BS1)**

Prepared & Analyzed: 01/07/21

Chloride	412	1.00	mg/kg wet	400	103	90-110
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**LCS Dup (P1A0701-BSD1)**

Prepared & Analyzed: 01/07/21

Chloride	417	1.00	mg/kg wet	400	104	90-110	1.37	20
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**Calibration Check (P1A0701-CCV1)**

Prepared & Analyzed: 01/07/21

Chloride	20.9		mg/kg	20.0	105	90-110
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**Calibration Check (P1A0701-CCV2)**

Prepared & Analyzed: 01/07/21

Chloride	20.5		mg/kg	20.0	102	90-110
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**Calibration Check (P1A0701-CCV3)**

Prepared & Analyzed: 01/07/21

Chloride	20.9		mg/kg	20.0	104	90-110
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**Matrix Spike (P1A0701-MS1)**

Source: 1A04003-15

Prepared & Analyzed: 01/07/21

Chloride	2940	5.15	mg/kg dry	515	2430	98.6	80-120
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**Matrix Spike (P1A0701-MS2)**

Source: 1A06004-02

Prepared & Analyzed: 01/07/21

Chloride	525	1.03	mg/kg dry	515	10.2	100	80-120
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**Matrix Spike Dup (P1A0701-MSD1)**

Source: 1A04003-15

Prepared & Analyzed: 01/07/21

Chloride	2970	5.15	mg/kg dry	515	2430	104	80-120	0.979	20
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**Matrix Spike Dup (P1A0701-MSD2)**

Source: 1A06004-02

Prepared & Analyzed: 01/07/21

Chloride	535	1.03	mg/kg dry	515	10.2	102	80-120	1.78	20
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0702 - \*\*\* DEFAULT PREP \*\*\*****Blank (P1A0702-BLK1)**

Prepared &amp; Analyzed: 01/07/21

Chloride	ND	1.00	mg/kg wet
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**LCS (P1A0702-BS1)**

Prepared &amp; Analyzed: 01/07/21

Chloride	411	1.00	mg/kg wet	400	103	90-110
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**LCS Dup (P1A0702-BSD1)**

Prepared &amp; Analyzed: 01/07/21

Chloride	412	1.00	mg/kg wet	400	103	90-110	0.333	20
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**Calibration Check (P1A0702-CCV1)**

Prepared &amp; Analyzed: 01/07/21

Chloride	20.9		mg/kg	20.0	104	90-110
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**Calibration Check (P1A0702-CCV2)**

Prepared: 01/07/21 Analyzed: 01/08/21

Chloride	21.4		mg/kg	20.0	107	90-110
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**Calibration Check (P1A0702-CCV3)**

Prepared: 01/07/21 Analyzed: 01/08/21

Chloride	21.3		mg/kg	20.0	106	90-110
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**Matrix Spike (P1A0702-MS1)**

Source: 1A06004-12

Prepared &amp; Analyzed: 01/07/21

Chloride	637	1.04	mg/kg dry	521	92.7	104	80-120
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**Matrix Spike (P1A0702-MS2)**

Source: 1A06004-22

Prepared: 01/07/21 Analyzed: 01/08/21

Chloride	589	1.06	mg/kg dry	532	24.6	106	80-120
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**Matrix Spike Dup (P1A0702-MSD1)**

Source: 1A06004-12

Prepared &amp; Analyzed: 01/07/21

Chloride	626	1.04	mg/kg dry	521	92.7	102	80-120	1.74	20
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**Matrix Spike Dup (P1A0702-MSD2)**

Source: 1A06004-22

Prepared: 01/07/21 Analyzed: 01/08/21

Chloride	577	1.06	mg/kg dry	532	24.6	104	80-120	2.07	20
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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0802 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P1A0802-BLK1)</b>		Prepared & Analyzed: 01/08/21								
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P1A0802-BS1)</b>		Prepared & Analyzed: 01/08/21								
Chloride	411	1.00	mg/kg wet	400		103	90-110			
<b>LCS Dup (P1A0802-BSD1)</b>		Prepared & Analyzed: 01/08/21								
Chloride	405	1.00	mg/kg wet	400		101	90-110	1.48	20	
<b>Calibration Check (P1A0802-CCV1)</b>		Prepared & Analyzed: 01/08/21								
Chloride	21.4		mg/kg	20.0		107	90-110			
<b>Calibration Check (P1A0802-CCV2)</b>		Prepared: 01/08/21 Analyzed: 01/11/21								
Chloride	21.7		mg/kg	20.0		108	90-110			
<b>Calibration Check (P1A0802-CCV3)</b>		Prepared: 01/08/21 Analyzed: 01/11/21								
Chloride	21.4		mg/kg	20.0		107	90-110			
<b>Matrix Spike (P1A0802-MS1)</b>		<b>Source: 1A06004-32</b>		Prepared & Analyzed: 01/08/21						
Chloride	646	1.05	mg/kg dry	526	127	98.7	80-120			
<b>Matrix Spike (P1A0802-MS2)</b>		<b>Source: 1A08003-03</b>		Prepared: 01/08/21 Analyzed: 01/09/21						
Chloride	7900	10.5	mg/kg dry	1050	7130	73.2	80-120			QM-05
<b>Matrix Spike Dup (P1A0802-MSD1)</b>		<b>Source: 1A06004-32</b>		Prepared & Analyzed: 01/08/21						
Chloride	647	1.05	mg/kg dry	526	127	98.7	80-120	0.0684	20	
<b>Matrix Spike Dup (P1A0802-MSD2)</b>		<b>Source: 1A08003-03</b>		Prepared: 01/08/21 Analyzed: 01/09/21						
Chloride	7730	10.5	mg/kg dry	1050	7130	56.9	80-120	2.19	20	QM-05

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0805 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P1A0805-BLK1)</b>	Prepared & Analyzed: 01/08/21									
% Moisture	ND	0.1	%							
<b>Blank (P1A0805-BLK2)</b>	Prepared & Analyzed: 01/08/21									
% Moisture	ND	0.1	%							
<b>Blank (P1A0805-BLK3)</b>	Prepared & Analyzed: 01/08/21									
% Moisture	ND	0.1	%							
<b>Duplicate (P1A0805-DUP1)</b>	<b>Source: 1A06004-10</b>		Prepared & Analyzed: 01/08/21							
% Moisture	6.0	0.1	%		6.0			0.00	20	
<b>Duplicate (P1A0805-DUP2)</b>	<b>Source: 1A06004-20</b>		Prepared & Analyzed: 01/08/21							
% Moisture	4.0	0.1	%		3.0			28.6	20	
<b>Duplicate (P1A0805-DUP3)</b>	<b>Source: 1A06004-35</b>		Prepared & Analyzed: 01/08/21							
% Moisture	5.0	0.1	%		5.0			0.00	20	
<b>Duplicate (P1A0805-DUP4)</b>	<b>Source: 1A07001-03</b>		Prepared & Analyzed: 01/08/21							
% Moisture	27.0	0.1	%		27.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0704 - TX 1005****Blank (P1A0704-BLK1)**

Prepared: 01/07/21 Analyzed: 01/08/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.2		"	100		88.2	70-130			
Surrogate: o-Terphenyl	46.4		"	50.0		92.8	70-130			

**LCS (P1A0704-BS1)**

Prepared: 01/07/21 Analyzed: 01/08/21

C6-C12	959	25.0	mg/kg wet	1000		95.9	75-125			
>C12-C28	1070	25.0	"	1000		107	75-125			
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	52.0		"	50.0		104	70-130			

**LCS Dup (P1A0704-BSD1)**

Prepared: 01/07/21 Analyzed: 01/08/21

C6-C12	958	25.0	mg/kg wet	1000		95.8	75-125	0.0282	20	
>C12-C28	1070	25.0	"	1000		107	75-125	0.0915	20	
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	53.0		"	50.0		106	70-130			

**Calibration Check (P1A0704-CCV1)**

Prepared: 01/07/21 Analyzed: 01/08/21

C6-C12	486	25.0	mg/kg wet	500		97.3	85-115			
>C12-C28	542	25.0	"	500		108	85-115			
Surrogate: 1-Chlorooctane	102		"	100		102	70-130			
Surrogate: o-Terphenyl	49.0		"	50.0		98.0	70-130			

**Calibration Check (P1A0704-CCV2)**

Prepared: 01/07/21 Analyzed: 01/08/21

C6-C12	452	25.0	mg/kg wet	500		90.3	85-115			
>C12-C28	486	25.0	"	500		97.2	85-115			
Surrogate: 1-Chlorooctane	95.0		"	100		95.0	70-130			
Surrogate: o-Terphenyl	45.1		"	50.0		90.1	70-130			

Permian Basin Environmental Lab, L.P.

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Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0704 - TX 1005**

<b>Matrix Spike (P1A0704-MS1)</b>	<b>Source: 1A06004-11</b>			Prepared: 01/07/21		Analyzed: 01/08/21				
C6-C12	985	27.2	mg/kg dry	1090	14.1	89.3	75-125			
>C12-C28	1100	27.2	"	1090	139	87.9	75-125			
Surrogate: 1-Chlorooctane	122		"	109		112	70-130			
Surrogate: o-Terphenyl	55.7		"	54.3		103	70-130			

<b>Matrix Spike Dup (P1A0704-MSD1)</b>	<b>Source: 1A06004-11</b>			Prepared: 01/07/21		Analyzed: 01/08/21				
C6-C12	948	27.2	mg/kg dry	1090	14.1	85.9	75-125	3.83	20	
>C12-C28	1040	27.2	"	1090	139	83.2	75-125	5.53	20	
Surrogate: 1-Chlorooctane	121		"	109		111	70-130			
Surrogate: o-Terphenyl	54.7		"	54.3		101	70-130			

**Batch P1A0705 - TX 1005**

Blank (P1A0705-BLK1)			Prepared: 01/07/21    Analyzed: 01/09/21			
C6-C12	ND	25.0	mg/kg wet			
>C12-C28	ND	25.0	"			
>C28-C35	ND	25.0	"			
Surrogate: 1-Chlorooctane	97.9		"	100	97.9	70-130
Surrogate: o-Terphenyl	51.1		"	50.0	102	70-130

<b>LCS (P1A0705-BS1)</b>				Prepared: 01/07/21		Analyzed: 01/09/21				
C6-C12	919	25.0	mg/kg wet	1000		91.9	75-125			
>C12-C28	1010	25.0	"	1000		101	75-125			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	54.2		"	50.0		108	70-130			

<b>LCS Dup (P1A0705-BSD1)</b>				Prepared: 01/07/21		Analyzed: 01/09/21				
C6-C12	925	25.0	mg/kg wet	1000		92.5	75-125	0.651	20	
>C12-C28	1020	25.0	"	1000		102	75-125	0.420	20	
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	57.9		"	50.0		116	70-130			

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Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A0705 - TX 1005****Calibration Check (P1A0705-CCV1)**

Prepared: 01/07/21 Analyzed: 01/08/21

C6-C12	453	25.0	mg/kg wet	500		90.6	85-115			
>C12-C28	479	25.0	"	500		95.9	85-115			
Surrogate: 1-Chlorooctane	109		"	100		109	70-130			
Surrogate: o-Terphenyl	52.4		"	50.0		105	70-130			

**Calibration Check (P1A0705-CCV2)**

Prepared: 01/07/21 Analyzed: 01/09/21

C6-C12	451	25.0	mg/kg wet	500		90.1	85-115			
>C12-C28	476	25.0	"	500		95.3	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	53.0		"	50.0		106	70-130			

**Calibration Check (P1A0705-CCV3)**

Prepared: 01/07/21 Analyzed: 01/09/21

C6-C12	445	25.0	mg/kg wet	500		89.1	85-115			
>C12-C28	495	25.0	"	500		99.0	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	52.0		"	50.0		104	70-130			

**Matrix Spike (P1A0705-MS1)**

Source: 1A06004-31

Prepared: 01/07/21 Analyzed: 01/09/21

C6-C12	991	27.5	mg/kg dry	1100	18.9	88.4	75-125			
>C12-C28	1200	27.5	"	1100	114	99.1	75-125			
Surrogate: 1-Chlorooctane	126		"	110		115	70-130			
Surrogate: o-Terphenyl	56.5		"	54.9		103	70-130			

**Matrix Spike Dup (P1A0705-MSD1)**

Source: 1A06004-31

Prepared: 01/07/21 Analyzed: 01/09/21

C6-C12	954	27.5	mg/kg dry	1100	18.9	85.1	75-125	3.88	20	
>C12-C28	1150	27.5	"	1100	114	93.9	75-125	5.31	20	
Surrogate: 1-Chlorooctane	121		"	110		110	70-130			
Surrogate: o-Terphenyl	51.7		"	54.9		94.1	70-130			

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Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

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

**Batch P1A0706 - TX 1005****Blank (P1A0706-BLK1)**

Prepared &amp; Analyzed: 01/07/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	57.6		"	50.0		115	70-130			

**LCS (P1A0706-BS1)**

Prepared &amp; Analyzed: 01/07/21

C6-C12	1010	25.0	mg/kg wet	1000		101	75-125			
>C12-C28	1020	25.0	"	1000		102	75-125			
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	63.6		"	50.0		127	70-130			

**LCS Dup (P1A0706-BSD1)**

Prepared &amp; Analyzed: 01/07/21

C6-C12	1010	25.0	mg/kg wet	1000		101	75-125	0.123	20	
>C12-C28	1030	25.0	"	1000		103	75-125	0.810	20	
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	64.4		"	50.0		129	70-130			

**Calibration Check (P1A0706-CCV1)**

Prepared &amp; Analyzed: 01/07/21

C6-C12	503	25.0	mg/kg wet	500		101	85-115			
>C12-C28	481	25.0	"	500		96.2	85-115			
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	60.3		"	50.0		121	70-130			

**Calibration Check (P1A0706-CCV2)**

Prepared &amp; Analyzed: 01/07/21

C6-C12	473	25.0	mg/kg wet	500		94.6	85-115			
>C12-C28	454	25.0	"	500		90.9	85-115			
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	56.0		"	50.0		112	70-130			

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

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

**Batch P1A0706 - TX 1005**

<b>Matrix Spike (P1A0706-MS1)</b>	<b>Source: 1A06006-03</b>			Prepared: 01/07/21		Analyzed: 01/08/21				
C6-C12	1000	130	mg/kg dry	1040	98.6	86.9	75-125			
>C12-C28	3050	130	"	1040	2850	18.7	75-125			QM-05
Surrogate: 1-Chlorooctane	102		"	104		97.4	70-130			
Surrogate: o-Terphenyl	50.6		"	52.1		97.1	70-130			
<b>Matrix Spike Dup (P1A0706-MSD1)</b>	<b>Source: 1A06006-03</b>			Prepared: 01/07/21		Analyzed: 01/08/21				
C6-C12	988	130	mg/kg dry	1040	98.6	85.4	75-125	1.71	20	
>C12-C28	3060	130	"	1040	2850	20.0	75-125	6.79	20	QM-05
Surrogate: 1-Chlorooctane	96.7		"	104		92.8	70-130			
Surrogate: o-Terphenyl	47.3		"	52.1		90.9	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

### Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

ROI Received on Ice

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

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

1/13/2021

Brent Barron, Laboratory Director/Technical Director

Dean 12600 W County Rd 91 Midland TX, 79707	Project: COG Screwdriver Release Project Number: PP-2180 Project Manager: Sylwia Reynolds	Fax:
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This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**Permian Basin Environmental Lab, LP  
1400 Rankin Hwy  
Midland, Texas 79701**

**Phone: 432-686-7235**

PG 1 of 4

**Project Manager:** Sylvia Reynolds

Company Name \_\_\_\_\_ Dean \_\_\_\_\_

Company Address: 12600 WCR 91

City/State/Zip: Midland TX 79707

Telephone No: 432-230-0920

**Sampler Signature:** Robert Belloc

**e-mail:** [sylwareynolds@deandigs.com](mailto:sylwareynolds@deandigs.com)

kaylanlongee@deanequip.com

Report Format: ☒ X Standard ☐ TRRP ☐ NPDES  
elizabethstuart@deandigs.com  
algroves@paalp.com

**AFE/ SRS#:**

**Project Loc:** Eddy County, New Mexico

**Project #:** PP-2180

**Project Name: COG SCREWDRIIVER RELEASEE**

Page 56 of 59

(lab use only)

ORDER #: 1A06004

LAB # (lab use only)		FIELD CODE		Beginning Depth		Ending Depth		Date Sampled		Time Sampled		Field Filtered		Total #. of Containers		Ice		HNO <sub>3</sub> 250ml Poly		HCl		H <sub>2</sub> SO <sub>4</sub>		NaOH		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		None 1L Poly		NaOH/ZnAc		DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other		TPH TX1005 EXT (TEXAS)		BTEX 8021 B		TCLP BENZENE		CHLORIDES		TCLP METALS		NORM		PAINT FILTER		TOX		RCI		pH		TPH 8015 M (NEW MEXICO)		7 Day TAT		24 hour TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1		AH-1H @ 1'	1 FT	1 FT	01/04/21	10:59AM			1	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												



## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP  
1400 Rankin Hwy  
Midland, Texas 79701

Phone: 432-686-7235

PG 2 of 4

Project Manager: Sylvia Reynolds

Project Name: COG SCREWDRIIVER RELEASE

Company Name: Dean

Project #: PP-2180

Company Address: 12600 WCR 91

Project Loc: Eddy County, New Mexico

City/State/Zip: Midland TX 79707

WORK ORDER #:

Telephone No: 432-230-0920

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Robert Belloc

e-mail: sylviareynolds@deandigs.com  
jeffkindley@deandigs.com  
kavlanlongee@deanequip.comAnalyze For: elizabethstuart@deandigs.com  
algroves@psaib.com

(lab use only)

ORDER #: 1A06004

ORDER #:		A06004																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers							Matrix	TPH TX1005 EXT (TEXAS)										7 Day TAT										24 hour TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
11	AH-2H @ 1'	11 FT	11 FT	01/04/21	1:41PM		1	X	Ice	HNO <sub>3</sub> 250,ml Poly	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None 1L Poly	NaOH/ZnAc	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</

## Special Instructions:

\* Run deeper sample for each auger hole if TPH DRO/GRO Concentrations are equal to or greater than 1,000 mg/Kg and/or if total TPH is 2,500 mg/Kg or greater. If Benzene PPM is greater than or equal to 10 and 50 for total BTEX, run deeper auger hole. If Chloride Concentrations are greater than or equal to 20,000 mg/Kg, run deeper samples.

Relinquished by:

Date

Time

Date

Time

Relinquished by:

Date

Time

Date

Time

Relinquished by:

Date

Time

Date

Time

Relinquished by:

Date

Time

Date

Time

**Laboratory Comments:**

Sample Containers intact? ☒ Y ☐ N

VOCs Free of Headspace? ☒ Y ☐ N

Labels on container(s)? ☒ Y ☐ N

Custody seals on container(s)? ☒ Y ☐ N

Custody seals on cooler(s)? ☒ Y ☐ N

Sample Hand Delivered by Sampler/Client Rep? ☒ Y ☐ N

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 3.9 °C

Adjusted: 4.9 °C Factor

CFH



**Permian Basin Environmental Lab, LP  
1400 Rankin Hwy  
Midland, Texas 79701**

**Phone: 432-686-7235**

PG. 3 of 4

Dean

12600 WCR 91

Midland TX 79707

432-230-0920

Robert Bellon

**e-mail:** [sylwareynolds@deanalgis.com](mailto:sylwareynolds@deanalgis.com)  
[ioffindlev@deanalgis.com](mailto:ioffindlev@deanalgis.com)

(lab use only)

ORDER #: ~~A106004~~ <sup>12</sup> 1A 06004

kayianlongee@deanequip.com

algroves@a.paalp.com

**WORK ORDER #:**

**Project Loc:** Eddy County, New Mexico

**Project #:** PP-2180

**Project Name:** COG SCREWDRIIVER RELEASE

Page 58 of 59

Received by OCB: 9/10/2021

**Special Instructions:**

\* Run deeper sample for each auger hole if TPH DRO/GRO Concentrations are equal to or greater than 1,000 mg/Kg and/or if total TPH is 2,500 mg/kg or greater. If Benzene PPM is greater than or equal to 10 and 50 for total BTEX, run deeper auger hole. If Chloride Concentrations are greater than or equal to 20,000 mg/kg, run deeper samples.

Relinquished by:	Date	Time	Received by:	Date	Time
<i>Debra T. Bledsoe</i>	11/6/21	15:58	<i>Shirna Bledsoe</i>	11/6/21	15:
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

	Late	N
Sample Containers intact?	Y	N
Labels on container(s)	Y	N
VOC's Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on coolers(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep.? X	N	N
by Courier? UPS DHL FedEx Lone Star		
Temperature Upon Receipt:		
Received 39 °C CFH		
Adjusted: 49 °C		

LAB # (lab use only)					
FIELD CODE					
Beginning Depth					
Ending Depth					
Date Sampled					
Time Sampled					
Field Filtered					
Total #. of Containers					
Ice					
HNO <sub>3</sub> 250,ml Poly					
HCl					
H <sub>2</sub> SO <sub>4</sub>					
NaOH					
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>					
None 1L Poly					
NaOH/ZnAc					
DW=Drinking Water SL=Sludge					
GW= Groundwater S=Soil/Solid					
NP=Non-Potable Specify Other					
TPH TX1005 EXT (TEXAS)					
BTEX 8021 B					
TCLP BENZENE					
CHLORIDES					
TCLP METALS					
NORM					
PAINT FILTER					
TOX					
RCI					
pH					
TPH 8015 M (NEW MEXICO)					
7 Day TAT					
24 hour TAT					

ORDER #:	A06004-1A06004	
LAB # (lab use only)		
FIELD CODE		
Beginning Depth		
Ending Depth		
Date Sampled		
Time Sampled		
Field Filtered		
Total #. of Containers		
Ice		
HNO <sub>3</sub> 250,ml Poly		
HCl		
H <sub>2</sub> SO <sub>4</sub>		
NaOH		
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		
None 1L Poly		
NaOH/ZnAc		
DW=Drinking Water SL=Sludge		
GW= Groundwater S=Soil/Solid		
NP=Non-Potable Specify Other		
TPH TX1005 EXT (TEXAS)		
BTEX 8021 B		
TCLP BENZENE		
CHLORIDES		
TCLP METALS		
NORM		
PAINT FILTER		
TOX		
RCI		
pH		
TPH 8015 M (NEW MEXICO)		
7 Day TAT		
24 hour TAT		

LAB # (lab use only)		
FIELD CODE		
Beginning Depth		
Ending Depth		
Date Sampled		
Time Sampled		
Field Filtered		
Total #. of Containers		
Ice		
HNO <sub>3</sub> 250,ml Poly		
HCl		
H <sub>2</sub> SO <sub>4</sub>		
NaOH		
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		
None 1L Poly		
NaOH/ZnAc		
DW=Drinking Water SL=Sludge		
GW= Groundwater S=Soil/Solid		
NP=Non-Potable Specify Other		
TPH TX1005 EXT (TEXAS)		
BTEX 8021 B		
TCLP BENZENE		
CHLORIDES		
TCLP METALS		
NORM		
PAINT FILTER		
TOX		
RCI		
pH		
TPH 8015 M (NEW MEXICO)		
7 Day TAT		
24 hour TAT		

LAB # (lab use only)		
FIELD CODE		
Beginning Depth		
Ending Depth		
Date Sampled		
Time Sampled		
Field Filtered		
Total #. of Containers		
Ice		
HNO <sub>3</sub> 250,ml Poly		
HCl		
H <sub>2</sub> SO <sub>4</sub>		
NaOH		
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		
None 1L Poly		
NaOH/ZnAc		
DW=Drinking Water SL=Sludge		
GW= Groundwater S=Soil/Solid		
NP=Non-Potable Specify Other		
TPH TX1005 EXT (TEXAS)		
BTEX 8021 B		
TCLP BENZENE		
CHLORIDES		
TCLP METALS		
NORM		
PAINT FILTER		
TOX		
RCI		
pH		
TPH 8015 M (NEW MEXICO)		
7 Day TAT		
24 hour TAT		

LAB # (lab use only)		
FIELD CODE		
Beginning Depth		
Ending Depth		
Date Sampled		
Time Sampled		
Field Filtered		
Total #. of Containers		
Ice		
HNO <sub>3</sub> 250,ml Poly		
HCl		
H <sub>2</sub> SO <sub>4</sub>		
NaOH		
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		
None 1L Poly		
NaOH/ZnAc		
DW=Drinking Water SL=Sludge		
GW= Groundwater S=Soil/Solid		
NP=Non-Potable Specify Other		
TPH TX1005 EXT (TEXAS)		
BTEX 8021 B		
TCLP BENZENE		
CHLORIDES		
TCLP METALS		
NORM		
PAINT FILTER		
TOX		
RCI		
pH		
TPH 8015 M (NEW MEXICO)		
7 Day TAT		
24 hour TAT		

LAB # (lab use only)		
FIELD CODE		
Beginning Depth		
Ending Depth		
Date Sampled		
Time Sampled		
Field Filtered		
Total #. of Containers		
Ice		
HNO <sub>3</sub> 250,ml Poly		
HCl		
H <sub>2</sub> SO <sub>4</sub>		
NaOH		
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		
None 1L Poly		
NaOH/ZnAc		
DW=Drinking Water SL=Sludge		
GW= Groundwater S=Soil/Solid		
NP=Non-Potable Specify Other		
TPH TX1005 EXT (TEXAS)		
BTEX 8021 B		
TCLP BENZENE		
CHLORIDES		
TCLP METALS		
NORM		
PAINT FILTER		
TOX		
RCI		
pH		
TPH 8015 M (NEW MEXICO)		
7 Day TAT		
24 hour TAT		





**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



## Analytical Report

**Prepared for:**

Sylwia Reynolds  
Dean  
12600 W County Rd 91  
Midland, TX 79707

Project: COG Screwdriver Release

Project Number: PP-2180

Location: Eddy County, NM

Lab Order Number: 1A22020



NELAP/TCEQ # T104704516-17-8

Report Date: 01/29/21

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-2 @ 3'	1A22020-01	Soil	01/22/21 13:26	01-22-2021 16:29
SSW-1	1A22020-02	Soil	01/22/21 13:30	01-22-2021 16:29
ESW-1	1A22020-03	Soil	01/22/21 13:45	01-22-2021 16:29

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BH-2 @ 3'**  
**1A22020-01 (Soil)**

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

**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

Benzene	ND	0.00109	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B
Toluene	ND	0.00109	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B
Ethylbenzene	ND	0.00109	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B
Xylene (o)	ND	0.00109	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B
Surrogate: 4-Bromofluorobenzene		88.5 %	80-120		P1A2705	01/27/21	01/27/21	EPA 8021B
Surrogate: 1,4-Difluorobenzene		91.4 %	80-120		P1A2705	01/27/21	01/27/21	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	16.3	1.09	mg/kg dry	1	P1A2609	01/26/21	01/28/21	EPA 300.0
% Moisture	8.0	0.1	%	1	P1A2401	01/24/21	01/25/21	ASTM D2216

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M
>C12-C28	ND	27.2	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M
>C28-C35	ND	27.2	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M
Surrogate: 1-Chlorooctane		108 %	70-130		P1A2507	01/25/21	01/26/21	TPH 8015M
Surrogate: o-Terphenyl		118 %	70-130		P1A2507	01/25/21	01/26/21	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	01/25/21	01/26/21	calc

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**SSW-1**  
**1A22020-02 (Soil)**

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

**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.00151</b>	0.00102	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B	
<b>Toluene</b>	<b>0.0303</b>	0.00102	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.0113</b>	0.00102	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.0212</b>	0.00204	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00471</b>	0.00102	mg/kg dry	1	P1A2705	01/27/21	01/27/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		87.4 %	80-120		P1A2705	01/27/21	01/27/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.4 %	80-120		P1A2705	01/27/21	01/27/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>70.8</b>	1.02	mg/kg dry	1	P1A2609	01/26/21	01/28/21	EPA 300.0	
<b>% Moisture</b>	<b>2.0</b>	0.1	%	1	P1A2401	01/24/21	01/25/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>170</b>	25.5	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>3340</b>	25.5	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>544</b>	25.5	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		P1A2507	01/25/21	01/26/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		123 %	70-130		P1A2507	01/25/21	01/26/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>4060</b>	25.5	mg/kg dry	1	[CALC]	01/25/21	01/26/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**ESW-1**  
**1A22020-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**BTEX by 8021B**

<b>Benzene</b>	<b>0.00392</b>	0.00101	mg/kg dry	1	P1A2705	01/27/21	01/28/21	EPA 8021B	
<b>Toluene</b>	<b>0.0146</b>	0.00101	mg/kg dry	1	P1A2705	01/27/21	01/28/21	EPA 8021B	
<b>Ethylbenzene</b>	<b>0.00383</b>	0.00101	mg/kg dry	1	P1A2705	01/27/21	01/28/21	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.0132</b>	0.00202	mg/kg dry	1	P1A2705	01/27/21	01/28/21	EPA 8021B	
<b>Xylene (o)</b>	<b>0.00308</b>	0.00101	mg/kg dry	1	P1A2705	01/27/21	01/28/21	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.2 %	80-120		P1A2705	01/27/21	01/28/21	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		95.3 %	80-120		P1A2705	01/27/21	01/28/21	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>103</b>	1.01	mg/kg dry	1	P1A2609	01/26/21	01/28/21	EPA 300.0	
<b>% Moisture</b>	<b>1.0</b>	0.1	%	1	P1A2401	01/24/21	01/25/21	ASTM D2216	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>ND</b>	25.3	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M	
<b>&gt;C12-C28</b>	<b>44.6</b>	25.3	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M	
<b>&gt;C28-C35</b>	<b>ND</b>	25.3	mg/kg dry	1	P1A2507	01/25/21	01/26/21	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		113 %	70-130		P1A2507	01/25/21	01/26/21	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		124 %	70-130		P1A2507	01/25/21	01/26/21	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>44.6</b>	25.3	mg/kg dry	1	[CALC]	01/25/21	01/26/21	calc	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2705 - General Preparation (GC)****Blank (P1A2705-BLK1)**

Prepared &amp; Analyzed: 01/27/21

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.3	80-120			
Surrogate: 4-Bromofluorobenzene	0.107		"	0.120		89.0	80-120			

**LCS (P1A2705-BS1)**

Prepared &amp; Analyzed: 01/27/21

Benzene	0.105	0.00100	mg/kg wet	0.100		105	70-130			
Toluene	0.107	0.00100	"	0.100		107	70-130			
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130			
Xylene (p/m)	0.236	0.00200	"	0.200		118	70-130			
Xylene (o)	0.110	0.00100	"	0.100		110	70-130			
Surrogate: 1,4-Difluorobenzene	0.117		"	0.120		97.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.107		"	0.120		89.3	80-120			

**LCS Dup (P1A2705-BSD1)**

Prepared &amp; Analyzed: 01/27/21

Benzene	0.101	0.00100	mg/kg wet	0.100		101	70-130	4.49	20	
Toluene	0.103	0.00100	"	0.100		103	70-130	3.73	20	
Ethylbenzene	0.106	0.00100	"	0.100		106	70-130	1.66	20	
Xylene (p/m)	0.225	0.00200	"	0.200		113	70-130	4.79	20	
Xylene (o)	0.104	0.00100	"	0.100		104	70-130	5.50	20	
Surrogate: 4-Bromofluorobenzene	0.105		"	0.120		87.5	80-120			
Surrogate: 1,4-Difluorobenzene	0.118		"	0.120		98.7	80-120			

**Calibration Check (P1A2705-CCV1)**

Prepared &amp; Analyzed: 01/27/21

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.103	0.00100	"	0.100		103	80-120			
Ethylbenzene	0.106	0.00100	"	0.100		106	80-120			
Xylene (p/m)	0.232	0.00200	"	0.200		116	80-120			
Xylene (o)	0.110	0.00100	"	0.100		110	80-120			
Surrogate: 1,4-Difluorobenzene	0.111		"	0.120		92.6	75-125			
Surrogate: 4-Bromofluorobenzene	0.102		"	0.120		85.2	75-125			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**BTEX by 8021B - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2705 - General Preparation (GC)****Calibration Check (P1A2705-CCV2)**

Prepared &amp; Analyzed: 01/27/21

Benzene	0.106	0.00100	mg/kg wet	0.100		106	80-120			
Toluene	0.115	0.00100	"	0.100		115	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.236	0.00200	"	0.200		118	80-120			
Xylene (o)	0.119	0.00100	"	0.100		119	80-120			
Surrogate: 1,4-Difluorobenzene	0.114		"	0.120		94.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.110		"	0.120		91.4	75-125			

**Calibration Check (P1A2705-CCV3)**

Prepared: 01/27/21 Analyzed: 01/28/21

Benzene	0.103	0.00100	mg/kg wet	0.100		103	80-120			
Toluene	0.114	0.00100	"	0.100		114	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.237	0.00200	"	0.200		118	80-120			
Xylene (o)	0.120	0.00100	"	0.100		120	80-120			
Surrogate: 4-Bromofluorobenzene	0.109		"	0.120		91.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.112		"	0.120		93.2	75-125			

**Matrix Spike (P1A2705-MS1)**

Source: 1A22020-01

Prepared: 01/27/21 Analyzed: 01/28/21

Benzene	0.0836	0.00109	mg/kg dry	0.109	ND	76.9	80-120			QM-07
Toluene	0.0933	0.00109	"	0.109	ND	85.9	80-120			
Ethylbenzene	0.100	0.00109	"	0.109	ND	92.1	80-120			
Xylene (p/m)	0.196	0.00217	"	0.217	ND	90.2	80-120			
Xylene (o)	0.104	0.00109	"	0.109	ND	95.4	80-120			
Surrogate: 1,4-Difluorobenzene	0.127		"	0.130		97.2	80-120			
Surrogate: 4-Bromofluorobenzene	0.135		"	0.130		104	80-120			

**Matrix Spike Dup (P1A2705-MSD1)**

Source: 1A22020-01

Prepared: 01/27/21 Analyzed: 01/28/21

Benzene	0.0857	0.00109	mg/kg dry	0.109	ND	78.8	80-120	2.44	20	QM-07
Toluene	0.0947	0.00109	"	0.109	ND	87.1	80-120	1.43	20	
Ethylbenzene	0.0983	0.00109	"	0.109	ND	90.5	80-120	1.84	20	
Xylene (p/m)	0.195	0.00217	"	0.217	ND	89.5	80-120	0.751	20	
Xylene (o)	0.103	0.00109	"	0.109	ND	95.2	80-120	0.252	20	
Surrogate: 4-Bromofluorobenzene	0.128		"	0.130		98.2	80-120			
Surrogate: 1,4-Difluorobenzene	0.132		"	0.130		101	80-120			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2401 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P1A2401-BLK1)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Blank (P1A2401-BLK2)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Blank (P1A2401-BLK3)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Blank (P1A2401-BLK4)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Blank (P1A2401-BLK5)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Blank (P1A2401-BLK6)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Blank (P1A2401-BLK7)</b>					Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	ND	0.1	%							
<b>Duplicate (P1A2401-DUP1)</b>		<b>Source: 1A22004-05</b>			Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	6.0	0.1	%		7.0			15.4	20	
<b>Duplicate (P1A2401-DUP2)</b>		<b>Source: 1A22005-08</b>			Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	7.0	0.1	%		6.0			15.4	20	
<b>Duplicate (P1A2401-DUP3)</b>		<b>Source: 1A22006-15</b>			Prepared: 01/24/21	Analyzed: 01/25/21				
% Moisture	18.0	0.1	%		17.0			5.71	20	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2401 - \*\*\* DEFAULT PREP \*\*\***

<b>Duplicate (P1A2401-DUP4)</b>	<b>Source: 1A22007-08</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	9.0	0.1	%		7.0			25.0	20	R2
<b>Duplicate (P1A2401-DUP5)</b>	<b>Source: 1A22008-12</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	7.0	0.1	%		7.0			0.00	20	
<b>Duplicate (P1A2401-DUP6)</b>	<b>Source: 1A22008-22</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	9.0	0.1	%		8.0			11.8	20	
<b>Duplicate (P1A2401-DUP7)</b>	<b>Source: 1A22009-09</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	7.0	0.1	%		7.0			0.00	20	
<b>Duplicate (P1A2401-DUP8)</b>	<b>Source: 1A22010-01</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	6.0	0.1	%		6.0			0.00	20	
<b>Duplicate (P1A2401-DUP9)</b>	<b>Source: 1A22013-05</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	4.0	0.1	%		4.0			0.00	20	
<b>Duplicate (P1A2401-DUPA)</b>	<b>Source: 1A22016-04</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	18.0	0.1	%		19.0			5.41	20	
<b>Duplicate (P1A2401-DUPB)</b>	<b>Source: 1A22018-04</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	11.0	0.1	%		12.0			8.70	20	
<b>Duplicate (P1A2401-DUPC)</b>	<b>Source: 1A22018-14</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	6.0	0.1	%		6.0			0.00	20	
<b>Duplicate (P1A2401-DUPD)</b>	<b>Source: 1A22019-11</b>		Prepared: 01/24/21 Analyzed: 01/25/21							
% Moisture	9.0	0.1	%		9.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2609 - \*\*\* DEFAULT PREP \*\*\*****Blank (P1A2609-BLK1)**

Prepared: 01/26/21 Analyzed: 01/27/21

Chloride	ND	1.00	mg/kg wet
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**LCS (P1A2609-BS1)**

Prepared: 01/26/21 Analyzed: 01/27/21

Chloride	387	1.00	mg/kg wet	400	96.8	90-110
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**LCS Dup (P1A2609-BSD1)**

Prepared: 01/26/21 Analyzed: 01/27/21

Chloride	386	1.00	mg/kg wet	400	96.5	90-110	0.295	20
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**Calibration Check (P1A2609-CCV1)**

Prepared: 01/26/21 Analyzed: 01/27/21

Chloride	19.4		mg/kg	20.0	96.9	90-110
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**Calibration Check (P1A2609-CCV2)**

Prepared: 01/26/21 Analyzed: 01/28/21

Chloride	19.9		mg/kg	20.0	99.7	90-110
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**Calibration Check (P1A2609-CCV3)**

Prepared: 01/26/21 Analyzed: 01/28/21

Chloride	20.0		mg/kg	20.0	100	90-110
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**Matrix Spike (P1A2609-MS1)****Source: 1A22008-25**

Prepared: 01/26/21 Analyzed: 01/27/21

Chloride	2470	5.32	mg/kg dry	532	2000	89.4	80-120
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**Matrix Spike (P1A2609-MS2)****Source: 1A22016-07**

Prepared: 01/26/21 Analyzed: 01/28/21

Chloride	3700	11.0	mg/kg dry	1100	2830	79.2	80-120		QM-05
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**Matrix Spike Dup (P1A2609-MSD1)****Source: 1A22008-25**

Prepared: 01/26/21 Analyzed: 01/27/21

Chloride	2510	5.32	mg/kg dry	532	2000	96.0	80-120	1.41	20
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**Matrix Spike Dup (P1A2609-MSD2)****Source: 1A22016-07**

Prepared: 01/26/21 Analyzed: 01/28/21

Chloride	3740	11.0	mg/kg dry	1100	2830	82.7	80-120	1.05	20
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Permian Basin Environmental Lab, L.P.

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Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2507 - TX 1005****Blank (P1A2507-BLK1)**

Prepared &amp; Analyzed: 01/25/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	99.9		"	100		99.9	70-130			
Surrogate: o-Terphenyl	54.0		"	50.0		108	70-130			

**LCS (P1A2507-BS1)**

Prepared &amp; Analyzed: 01/25/21

C6-C12	820	25.0	mg/kg wet	1000		82.0	75-125			
>C12-C28	862	25.0	"	1000		86.2	75-125			
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	54.5		"	50.0		109	70-130			

**LCS Dup (P1A2507-BSD1)**

Prepared &amp; Analyzed: 01/25/21

C6-C12	836	25.0	mg/kg wet	1000		83.6	75-125	1.92	20	
>C12-C28	864	25.0	"	1000		86.4	75-125	0.200	20	
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	56.9		"	50.0		114	70-130			

**Calibration Check (P1A2507-CCV1)**

Prepared &amp; Analyzed: 01/25/21

C6-C12	459	25.0	mg/kg wet	500		91.7	85-115			
>C12-C28	525	25.0	"	500		105	85-115			
Surrogate: 1-Chlorooctane	98.1		"	100		98.1	70-130			
Surrogate: o-Terphenyl	50.4		"	50.0		101	70-130			

**Calibration Check (P1A2507-CCV2)**

Prepared: 01/25/21 Analyzed: 01/26/21

C6-C12	440	25.0	mg/kg wet	500		88.0	85-115			
>C12-C28	435	25.0	"	500		87.1	85-115			
Surrogate: 1-Chlorooctane	104		"	100		104	70-130			
Surrogate: o-Terphenyl	53.6		"	50.0		107	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1A2507 - TX 1005**

<b>Duplicate (P1A2507-DUP1)</b>		<b>Source: 1A22016-10</b>		Prepared: 01/25/21		Analyzed: 01/26/21				
C6-C12	19.2	27.5	mg/kg dry		38.9			68.0	20	R3
>C12-C28	50.1	27.5	"		449			160	20	R3
Surrogate: 1-Chlorooctane	126		"	110		115	70-130			
Surrogate: o-Terphenyl	68.7		"	54.9		125	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

### Notes and Definitions

ROI Received on Ice

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

R2 The RPD exceeded the acceptance limit.

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

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

1/29/2021

Brent Barron, Laboratory Director/Technical Director

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean	Project: COG Screwdriver Release	Fax:
12600 W County Rd 91	Project Number: PP-2180	
Midland TX, 79707	Project Manager: Sylwia Reynolds	

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**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



# Analytical Report

**Prepared for:**

Sylwia Reynolds  
Dean  
12600 W County Rd 91  
Midland, TX 79707

Project: COG Screwdriver Release

Project Number: PP-2180

Location: Eddy County, NM

Lab Order Number: 1B24001



NELAP/TCEQ # T104704516-17-8

Report Date: 03/02/21



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSW-1A	1B24001-01	Soil	02/23/21 10:25	02-23-2021 16:58

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**SSW-1A**  
**1B24001-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	3.0	0.1	%	1	P1B2505	02/25/21	02/25/21	ASTM D2216
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	35.8	25.8	mg/kg dry	1	P1B2413	02/24/21	02/25/21	TPH 8015M
>C12-C28	1140	25.8	mg/kg dry	1	P1B2413	02/24/21	02/25/21	TPH 8015M
>C28-C35	181	25.8	mg/kg dry	1	P1B2413	02/24/21	02/25/21	TPH 8015M
Surrogate: 1-Chlorooctane		86.9 %	70-130		P1B2413	02/24/21	02/25/21	TPH 8015M
Surrogate: o-Terphenyl		100 %	70-130		P1B2413	02/24/21	02/25/21	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	1360	25.8	mg/kg dry	1	[CALC]	02/24/21	02/25/21	calc

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P1B2505 - *** DEFAULT PREP ***</b>										
<b>Blank (P1B2505-BLK1)</b>				Prepared & Analyzed: 02/25/21						
% Moisture	ND	0.1	%							
<b>Blank (P1B2505-BLK2)</b>				Prepared & Analyzed: 02/25/21						
% Moisture	ND	0.1	%							
<b>Duplicate (P1B2505-DUP1)</b>				<b>Source: 1B24007-03</b>		Prepared & Analyzed: 02/25/21				
% Moisture	10.0	0.1	%		9.0			10.5	20	
<b>Duplicate (P1B2505-DUP2)</b>				<b>Source: 1B24007-13</b>		Prepared & Analyzed: 02/25/21				
% Moisture	8.0	0.1	%		9.0			11.8	20	
<b>Duplicate (P1B2505-DUP3)</b>				<b>Source: 1B24007-20</b>		Prepared & Analyzed: 02/25/21				
% Moisture	12.0	0.1	%		14.0			15.4	20	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1B2413 - TX 1005****Blank (P1B2413-BLK1)**

Prepared: 02/24/21 Analyzed: 02/25/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.7		"	100		88.7	70-130			
Surrogate: o-Terphenyl	48.5		"	50.0		97.0	70-130			

**LCS (P1B2413-BS1)**

Prepared: 02/24/21 Analyzed: 02/25/21

C6-C12	853	25.0	mg/kg wet	1000		85.3	75-125			
>C12-C28	858	25.0	"	1000		85.8	75-125			
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	51.7		"	50.0		103	70-130			

**LCS Dup (P1B2413-BS1)**

Prepared: 02/24/21 Analyzed: 02/25/21

C6-C12	852	25.0	mg/kg wet	1000		85.2	75-125	0.103	20	
>C12-C28	837	25.0	"	1000		83.7	75-125	2.51	20	
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	50.1		"	50.0		100	70-130			

**Calibration Blank (P1B2413-CCB1)**

Prepared: 02/24/21 Analyzed: 02/25/21

C6-C12	9.92		mg/kg wet							
>C12-C28	18.4		"							
Surrogate: 1-Chlorooctane	83.5		"	100		83.5	70-130			
Surrogate: o-Terphenyl	45.4		"	50.0		90.9	70-130			

**Calibration Check (P1B2413-CCV1)**

Prepared &amp; Analyzed: 02/24/21

C6-C12	430	25.0	mg/kg wet	500		85.9	85-115			
>C12-C28	437	25.0	"	500		87.4	85-115			
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	49.0		"	50.0		98.1	70-130			

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1B2413 - TX 1005**

Duplicate (P1B2413-DUP1)	Source: 1B24003-01		Prepared: 02/24/21	Analyzed: 02/25/21		
C6-C12	1930	133	mg/kg dry	1990	3.38	20
>C12-C28	10400	133	"	10500	1.12	20
Surrogate: 1-Chlorooctane	138	"	106	129	70-130	
Surrogate: o-Terphenyl	57.7	"	53.2	108	70-130	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Notes and Definitions**

ROI Received on Ice  
BULK Samples received in Bulk soil containers  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date:

3/2/2021

Brent Barron, Laboratory Director/Technical Director

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Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235



**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
1400 Rankin Hwy  
Midland, TX 79701**



# Analytical Report

**Prepared for:**

Sylwia Reynolds  
Dean  
12600 W County Rd 91  
Midland, TX 79707

Project: COG Screwdriver Release

Project Number: PP-2180

Location: Eddy County, NM

Lab Order Number: 1C22012



NELAP/TCEQ # T104704516-17-8

Report Date: 03/26/21



Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SSW-1B	1C22012-01	Soil	03/18/21 08:34	03-19-2021 16:59

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**SSW-1B**  
**1C22012-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**General Chemistry Parameters by EPA / Standard Methods**

% Moisture	1.0	0.1	%	1	P1C2306	03/23/21	03/23/21	ASTM D2216
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**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P1C2408	03/24/21	03/25/21	TPH 8015M
>C12-C28	28.4	25.3	mg/kg dry	1	P1C2408	03/24/21	03/25/21	TPH 8015M
>C28-C35	ND	25.3	mg/kg dry	1	P1C2408	03/24/21	03/25/21	TPH 8015M
Surrogate: 1-Chlorooctane		94.7 %	70-130		P1C2408	03/24/21	03/25/21	TPH 8015M
Surrogate: o-Terphenyl		92.4 %	70-130		P1C2408	03/24/21	03/25/21	TPH 8015M
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>28.4</b>	25.3	mg/kg dry	1	[CALC]	03/24/21	03/25/21	calc

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P1C2306 - *** DEFAULT PREP ***</b>										
<b>Blank (P1C2306-BLK1)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK2)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK3)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK4)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK5)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK6)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK7)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK8)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Blank (P1C2306-BLK9)</b>	Prepared & Analyzed: 03/23/21									
% Moisture	ND	0.1	%							
<b>Duplicate (P1C2306-DUP1)</b>	Source: 1C22001-10 Prepared & Analyzed: 03/23/21									
% Moisture	6.0	0.1	%		6.0			0.00	20	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1C2306 - \*\*\* DEFAULT PREP \*\*\***

<b>Duplicate (P1C2306-DUP2)</b>	<b>Source: 1C22001-20</b>		Prepared & Analyzed: 03/23/21							
% Moisture	12.0	0.1	%		12.0			0.00	20	
<b>Duplicate (P1C2306-DUP3)</b>	<b>Source: 1C22002-11</b>		Prepared & Analyzed: 03/23/21							
% Moisture	10.0	0.1	%		11.0			9.52	20	
<b>Duplicate (P1C2306-DUP4)</b>	<b>Source: 1C22003-10</b>		Prepared & Analyzed: 03/23/21							
% Moisture	14.0	0.1	%		14.0			0.00	20	
<b>Duplicate (P1C2306-DUP5)</b>	<b>Source: 1C22004-05</b>		Prepared & Analyzed: 03/23/21							
% Moisture	12.0	0.1	%		9.0			28.6	20	R2
<b>Duplicate (P1C2306-DUP6)</b>	<b>Source: 1C22005-03</b>		Prepared & Analyzed: 03/23/21							
% Moisture	1.0	0.1	%		2.0			66.7	20	R2
<b>Duplicate (P1C2306-DUP7)</b>	<b>Source: 1C22007-13</b>		Prepared & Analyzed: 03/23/21							
% Moisture	13.0	0.1	%		11.0			16.7	20	
<b>Duplicate (P1C2306-DUP8)</b>	<b>Source: 1C22009-02</b>		Prepared & Analyzed: 03/23/21							
% Moisture	ND	0.1	%		ND				20	
<b>Duplicate (P1C2306-DUP9)</b>	<b>Source: 1C22011-01</b>		Prepared & Analyzed: 03/23/21							
% Moisture	5.0	0.1	%		5.0			0.00	20	
<b>Duplicate (P1C2306-DUPA)</b>	<b>Source: 1C22016-06</b>		Prepared & Analyzed: 03/23/21							
% Moisture	12.0	0.1	%		12.0			0.00	20	
<b>Duplicate (P1C2306-DUPB)</b>	<b>Source: 1C22021-08</b>		Prepared & Analyzed: 03/23/21							
% Moisture	ND	0.1	%		ND				20	

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1C2306 - \*\*\* DEFAULT PREP \*\*\***

<b>Duplicate (P1C2306-DUPC)</b>	<b>Source: 1C22021-18</b>		Prepared & Analyzed: 03/23/21							
% Moisture	ND	0.1	%		ND				20	
<b>Duplicate (P1C2306-DUPD)</b>	<b>Source: 1C22021-33</b>		Prepared & Analyzed: 03/23/21							
% Moisture	ND	0.1	%		ND				20	
<b>Duplicate (P1C2306-DUPE)</b>	<b>Source: 1C22021-43</b>		Prepared & Analyzed: 03/23/21							
% Moisture	ND	0.1	%		ND				20	
<b>Duplicate (P1C2306-DUPF)</b>	<b>Source: 1C22021-58</b>		Prepared & Analyzed: 03/23/21							
% Moisture	ND	0.1	%		ND				20	
<b>Duplicate (P1C2306-DUPG)</b>	<b>Source: 1C22021-68</b>		Prepared & Analyzed: 03/23/21							
% Moisture	1.0	0.1	%		2.0			66.7	20	R2

Permian Basin Environmental Lab, L.P.

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1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1C2408 - TX 1005****Blank (P1C2408-BLK1)**

Prepared: 03/24/21 Analyzed: 03/25/21

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	89.0		"	100		89.0	70-130			
Surrogate: o-Terphenyl	45.5		"	50.0		91.0	70-130			

**LCS (P1C2408-BS1)**

Prepared: 03/24/21 Analyzed: 03/25/21

C6-C12	983	25.0	mg/kg wet	1000		98.3	75-125			
>C12-C28	978	25.0	"	1000		97.8	75-125			
Surrogate: 1-Chlorooctane	97.8		"	100		97.8	70-130			
Surrogate: o-Terphenyl	49.1		"	50.0		98.3	70-130			

**LCS Dup (P1C2408-BS1)**

Prepared: 03/24/21 Analyzed: 03/25/21

C6-C12	993	25.0	mg/kg wet	1000		99.3	75-125	1.02	20	
>C12-C28	969	25.0	"	1000		96.9	75-125	0.953	20	
Surrogate: 1-Chlorooctane	96.4		"	100		96.4	70-130			
Surrogate: o-Terphenyl	47.9		"	50.0		95.8	70-130			

**Calibration Check (P1C2408-CCV1)**

Prepared: 03/24/21 Analyzed: 03/25/21

C6-C12	479	25.0	mg/kg wet	500		95.9	85-115			
>C12-C28	526	25.0	"	500		105	85-115			
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	47.8		"	50.0		95.5	70-130			

**Calibration Check (P1C2408-CCV2)**

Prepared: 03/24/21 Analyzed: 03/26/21

C6-C12	426	25.0	mg/kg wet	500		85.2	85-115			
>C12-C28	428	25.0	"	500		85.6	85-115			
Surrogate: 1-Chlorooctane	91.1		"	100		91.1	70-130			
Surrogate: o-Terphenyl	40.1		"	50.0		80.1	70-130			

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P1C2408 - TX 1005****Calibration Check (P1C2408-CCV3)**

Prepared: 03/24/21 Analyzed: 03/26/21

C6-C12	470	25.0	mg/kg wet	500		94.0	85-115			
>C12-C28	523	25.0	"	500		105	85-115			
Surrogate: 1-Chlorooctane	108		"	100		108	70-130			
Surrogate: o-Terphenyl	47.5		"	50.0		95.1	70-130			

**Matrix Spike (P1C2408-MS1)**

Source: 1C22021-06

Prepared: 03/24/21 Analyzed: 03/26/21

C6-C12	895	25.0	mg/kg dry	1000	ND	89.5	75-125			
>C12-C28	925	25.0	"	1000	21.6	90.4	75-125			
Surrogate: 1-Chlorooctane	120		"	100		120	70-130			
Surrogate: o-Terphenyl	45.6		"	50.0		91.1	70-130			

**Matrix Spike Dup (P1C2408-MSD1)**

Source: 1C22021-06

Prepared: 03/24/21 Analyzed: 03/26/21

C6-C12	936	25.0	mg/kg dry	1000	ND	93.6	75-125	4.46	20	
>C12-C28	952	25.0	"	1000	21.6	93.0	75-125	2.86	20	
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	48.5		"	50.0		97.0	70-130			

Permian Basin Environmental Lab, L.P.

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.*

1400 Rankin HWY Midland, TX 79701 432-686-7235

Dean  
12600 W County Rd 91  
Midland TX, 79707

Project: COG Screwdriver Release  
Project Number: PP-2180  
Project Manager: Sylwia Reynolds

Fax:

**Notes and Definitions**

ROI Received on Ice  
R2 The RPD exceeded the acceptance limit.  
BULK Samples received in Bulk soil containers  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date:

3/26/2021

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Permian Basin Environmental Lab, L.P.

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.*

1400 Rankin HWY Midland, TX 79701 432-686-7235



**PBHLAB**

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP  
1400 Rankin Hwy  
Midland, Texas 79701

Phone: 432-686-7235

Pg. 1 of 1

Project Manager: Sylvia Reynolds

Project Name: PP-2180 CO2 Sequestration

Company Name: Dean

Project #: PP-2180

Company Address: 12600 West County Rd. 91

Project Loc: Taddy County, New Mexico

City/State/Zip: Midland TX 79707

WORK ORDER #:

Telephone No: 432-230-0920

Fax No:

Report Format: ☒ Standard ☐ TRRP ☐ NPDESSampler Signature: Kaylan Longee

e-mail:

sylvia.reynolds@deandigs.com  
jeffkindley@deandigs.com  
kavianlongee@deanequip.com  
algroves@paalp.comelizabethstuart@deandigs.com  
stevacasanova@deandigs.com

Analyze For:

(lab use only)

ORDER #: C22012

Preservation &amp; # of Containers

Matrix

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Ice

HNO<sub>3</sub> 250,ml Poly

HCl

H<sub>2</sub>SO<sub>4</sub>

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

None 1L Poly

NaOH/ZnAc

DW=Drinking Water SL=Sludge

GW = Groundwater S=Soil/Solid

NP=Non-Potable Specify Other

TPH TX1005 EXT (TEXAS)

BTX 8021 B

TCLP BENZENE

CHLORIDES

TCLP METALS

NORM

PAINT FILTER

TOX

RCI

pH

TPH 8015 M (NEW MEXICO)

7 Day TAT

24 hour TAT

Special Instructions:

Laboratory Comments:

Sample Containers Intact?

VOCs Free of HeadSpace?

Labels on container(s)?

Custody seals on container(s)?

Custody seals on cooler(s)?

Sample Hand Delivered?

by Courier?

UPS DHL FedEx Lone Star

Temperature Upon Receipt:

Received: 1288 °C

Adjusted:

C.Factor

## **APPENDIX D**

### **PHOTOGRAPHIC DOCUMENTATION**



**Photograph No 1.**

Date: December 22, 2020

Direction: West

Description: View of LACT release area.

**Photograph No 2.**

Date: December 22, 2020

Direction: South

Description: View of LACT release area.





**Photograph No 3.**

Date: December 22, 2020

Direction: North

Description: View of release area beneath producer's lined steel berm.



**Photograph No 4.**

Date: December 22, 2020

Direction: North

Description: View of release area beneath producer's lined steel berm.





**Photograph No 5.**

Date: January 5, 2021

Direction: North

Description: View of excavation and release area.



**Photograph No 6.**

Date: January 5, 2021

Direction: West

Description: View of excavation and release area.





**Photograph No 7.**

Date: April 13, 2021

Direction: East

Description: View of producer's steel berm and area of AH-3 and AH-2H.

**Photograph No 8.**

Date: January 5, 2021

Direction: South

Description: View of producer's Tank Battery, steel berm, fencing and AH-4H.





**Photograph No 9.**

Date: February 23, 2021

Direction: West

Description: View of excavation area by LACT.

**Photograph No 10.**

Date: April 13, 2021

Direction: West to Northwest

Description: View of backfilled excavation.



**APPENDIX E**  
**EXTENSION REQUEST AND NMOCD RESPONSE**



**From:** [Hamlet, Robert, EMNRD](#)  
**To:** [Amber L Groves](#)  
**Cc:** [Billings, Bradford, EMNRD](#); [Bratcher, Mike, EMNRD](#); [Camille J Bryant](#); [Bratcher, Mike, EMNRD](#); [Eads, Cristina, EMNRD](#); [Hensley, Chad, EMNRD](#)  
**Subject:** (Extension Approval) NAPP2036337003 Plains COG Screwdriver 24 Fed Com 2H  
**Date:** Thursday, April 8, 2021 8:46:00 AM

---

RE: Incident #NAPP2036337003

**Amber,**

Plains request for an extension to **June 7th, 2021** is approved. Remediation activities has been completed and extensive delineation conducted under the producers tank battery. Plains is currently in the process of writing a closure/deferral request and has submitted data to the producer pending a response.

**Robert Hamlet** • Environmental Specialist - Advanced  
Environmental Bureau  
EMNRD - Oil Conservation Division  
811 S. First Street | Artesia, NM 88210  
575.909.0302 | [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)  
<http://www.emnrd.state.nm.us/OCD/>



---

**From:** Amber L Groves <ALGroves@paalp.com>  
**Sent:** Wednesday, April 7, 2021 1:25 PM  
**To:** Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; Eads, Cristina, EMNRD <Cristina.Eads@state.nm.us>  
**Cc:** Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Camille J Bryant <CJBryant@paalp.com>  
**Subject:** [EXT] nAPP2036337003 Plains COG Screwdriver 24 Fed Com 2H

Good Afternoon,

Plains would like to respectfully request a 60 day extension for nAPP2036337003 Plains COG Screwdriver 24 Fed Com 2H. Remediation activities have been completed and extensive delineation conducted under the producers tank battery this release impacted. Plains is currently in the process of writing a closure/deferral request and has submitted data to the producer pending a response. Please feel free to give me a call at (575)200-5517 should you have any questions.

Thank you,

*Amber L. Groves*  
*Remediation Coordinator*  
*Plains All American*  
*3112 W. US Hwy 82*  
*Lovington, NM 88260*  
*575-200-5517*

Attention:

The information contained in this message and/or attachments is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. If you received this in error, please contact the Plains Service Desk at 713-646-4444 and delete the material from any system and destroy any copies.

This footnote also confirms that this email message has been scanned for Viruses and Content and cleared.

Incident ID	nAPP2036337003
District RP	
Facility ID	
Application ID	

## Remediation Plan

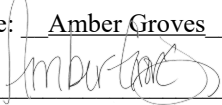
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amber Groves Title: Remediation Coordinator  
Signature:  Date: 06/16/2021  
email: algroves@paalp.com Telephone: 575-200-5517

**OCD Only**

Received by: Robert Hamlet Date: 9/21/2021

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☒ Deferral Approved

Signature: Robert Hamlet Date: 9/21/2021

**District I**

1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 32294

**CONDITIONS**

Operator: PLAINS MARKETING L.P. 333 Clay St, Ste 1600 Houston, TX 77002	OGRID:
	34053
	Action Number: 32294
Action Type: [C-141] Release Corrective Action (C-141)	

**CONDITIONS**

Created By	Condition	Condition Date
rhamlet	Plains deferral requests to complete final remediation for impacted soils remaining from 1 ft to 7 ft (denoted by auger holes AH-1 [ from 3 to 7" bgs], AH-2H [ at 1' bgs], AH-3H [ at 1' bgs] and AH-7 [ from 1' to 5' bgs]) beneath the producer's tank battery until time of abandonment, due to limited accessibility to impacted soils (i.e. lined tank battery, steel berm). Plains also request a variance to include a deferral of cleanup/remediation of impacted soils remaining from 3 ft to 7 ft bgs (denoted by AH-1) within LACT unit due to limited accessibility and to ensure the structural integrity of the LACT unit until time of abandonment or upgrade to system. At this time, OCD approves the request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. This is a Federal site and will require like approval from BLM.	9/21/2021