APPROVED
By Olivia Yu at 4:07 pm, Jul 27, 2018

NMOCD approves of the proposed additional delineation for 1RP-4836 with modifications. See email correspondence.

EnTech
Houston, TX • (281) 362-2714

June 8, 2018

Ms. Olivia Yu
Oil Conservation Division – District 1
State of New Mexico – Energy Minerals and Natural Resources
1625 N. French Drive
Hobbs, New Mexico 88240

RE: C&J Energy Services Assessment Work Plan
State AB SWD #1
Hobbs, Lea County, New Mexico
Case Number: 1RP-4836

Dear Ms. Yu:

Please accept this letter as a formal Work Plan for the above referenced project site and the continued assessment activities planned for same.

INTRODUCTION

This work plan has been developed by EnTech Consulting Corporation (EnTech) to assess soil contamination at the C&J Energy Services (CJES) State AB SWD #1 salt water disposal facility (hereinafter referred to as the "Site"), located approximately 6 miles west of Hobbs, Lea County, New Mexico. The CJES Site is located in Section 3, Township 19S, Range 37E. The actual location of the release is 660 from the north line of the Section and 1980-feet from the east line of the Section at latitude 32.6947220 and longitude -103.2402780.

The Site consists of a storage yard, equipped with numerous tanks and truck unloading area. On September 22, 2017, an offload valve attached to a hose was left partially open during a night offload. The hose was stored vertically so that the release was not seen until it filled the hose and spilled. The fluids were discovered the next morning on September 23, 2017, when the valve was properly closed. The released fluids were immediately vacuumed from the yard. The immediate release area was scraped, with affected soils stockpiled at the Site. The Site reportedly experienced thunderstorms on the 23rd-25th of September, 2017. The heavy rains produced storm water which migrated off the well pad via the storm water outfall, which may have resulted in off-Site impact.

On October 31, 2017, representatives of CJES and EnTech met with the New Mexico Oil Conservation Division (NMOCD) and New Mexico State Lands (NMSL). It was determined during that meeting, that areas located off-Site required investigations and delineation of impacts from the Site. On December 8, 2017, an Assessment Work Plan was submitted to NMOCD and NMSL incorporating the areas discussed in the October 31 meeting. The Assessment Work Plan was ultimately approved on December 21, 2017 and implementation of the work plan occurred from February 5, 2018 through February 8, 2018.

An Assessment Report was prepared by EnTech, dated April 2018, and submitted to NMOCD and NMSL. Results of the assessment, outlined in the Assessment Report, indicated that additional work for full vertical and lateral delineation was required. This work plan addresses on- and off-Site areas requiring additional assessment. All previous laboratory analysis performed during the assessment in February 2018 are listed in **Table 1**. The site and site layout are illustrated on **Figure 1** and **Figure 2**.

In New Mexico, the New Mexico Oil Conservation Division (NMOCD) oversees and regulates oil, gas and geothermal activities, including enforcement and compliance with environmental regulations. Guidance for cleanup of crude oil releases is provided in the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993) document. Primary contaminants, or chemicals of concern (COCs), associated with releases from this facility, and requested in the directive attached to the NMOCD Release Notification and Corrective Action (dated October 4, 2017) included benzene, toluene, ethylbenzene, and total xylenes (BTEX), total petroleum hydrocarbons (TPH), and chlorides. Guidelines for these COCs in soil were evaluated based on a Site ranking system established during a previous tank closure at the Site, that is documented in the report dated October 7, 2015.

OCD SITE RANKING

Based on the proximity of the Site to area water wells, surface water bodies, and depth to groundwater, an NMOCD ranking score of 20 points was established in October 2015.

Based on typical NMOCD remediation standards, the analytical goals for confirmation samples collected from the affected area at the Site are: TPH target concentration of 100 mg/Kg, benzene target concentration of 10 mg/Kg, total BTEX target concentration of 50 mg/Kg, and chloride target concentration of 600 mg/Kg. A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the benzene and BTEX concentration limits as per NMOCD Guidelines. It should be noted that field soil vapor headspace screening was conducted on all samples collected during the May 2018 assessment and indicated OVM readings ranging from nondetectable to 16 ppmv, resulting in the removal of BTEX as a COC.

The scope of this work plan is to document the environmental sample collection objectives and the proposed technical site investigation strategies that will be utilized during the characterization of impacts associated with the release of oil and gas fluids from the Site and subsequent remediation (as required).

SCOPE OF WORK

The scope of work as outlined in this additional assessment, proposes the collection of thirty-seven (37) soil samples. Specifically, eight (8) soil samples will be collected from two (2) deep soil borings (B-5 and B-6), four (4) soil samples will be collected from two (2) shallow soil borings (referenced as “cardinal direction” locations; CD-8 and CD-9), fourteen (14) soil samples will be collected from seven (7) shallow soil borings (listed as D-22 through D-28), eight (8) soil samples will be collected from four (4) “back up” shallow borings (listed as BUC-20 through BUC-23), and three (3) duplicate soil samples will be collected from locations to be determined. All proposed sample locations are illustrated on **Figure 3** and described in detail on **Table 2**.

During the additional proposed assessment process of the off-Site area, EnTech personnel will install soil borings in close proximity to former locations B-2 and B-4. The two (2) proposed soil borings will be installed to a depth of approximately 40-feet below ground surface (bgs) or to the vadose zone, whichever occurs first, using an air-rotary drilling unit. An attempt will be made to collect complete 1-foot samples at the proposed sample intervals using a custom plug sampler. The sampler consists of a thick steel, hollow barrel fitted with teeth and harden steel. The tool is torqued and pushed to secure the complete sample and is only effective on sand and softer sediments. In the event that the custom plug sampler cannot be used (i.e., limestone is encountered), then all samples from the two (2) soil borings will consist of grab samples, which will be collected from the cuttings in each soil boring at a depth of 25-feet, 30-feet, 35-feet, and 40-feet and analyzed for chloride content using EPA Method 300.0.

Additionally, the current work plan calls for the installation of four (4) shallow soil borings to a depth of 5-feet bgs to be utilized as "cardinal direction" locations, as illustrated on **Figure 2**. The first shallow soil boring (CD-8) will be installed northwest of the previous location CD-2, just beyond the Site boundary. The second shallow soil boring (CD-9) will be installed approximately 75-feet north of the previous location CD-1, also just beyond the Site boundary. Due to previously encountered geology, both the shallow soil borings ("cardinal direction" locations) will be installed using air rotary technology. Two (2) soil samples will be collected from each of the "cardinal direction" locations: one (1) grab sample will be collected from the cuttings at a depth of 1- to 1.5-feet bgs; and, one (1) grab sample will be collected from the cuttings at a depth of 5-feet bgs. Soil samples collected from the "cardinal direction" locations will be analyzed for chlorides using EPA Method 300.0 and total petroleum hydrocarbons (TPH) using EPA Method 8015 extended range (GRO+DRO+MRO; C_6 through C_{35}).

Three (3) shallow soil borings will be installed north, east and southeast of former location BUC-1 and CD-2 to a depth of 3-feet bgs (D-22 through D-24). Two (2) soil samples will be collected from soil cuttings from each of the sample locations at 1-feet bgs and 3-feet bgs. Soil samples collected from proposed location D-22 and D-23 will be analyzed for chlorides using EPA Method 300.0. Only the sample collected at 1-foot bgs from proposed location D-24, will be analyzed for chloride whereas the sample collected from 3-feet bgs will be held for analysis pending the results on the sample collected at 1-foot bgs. Two (2) shallow soil borings (D-25 and D-26) are proposed for installation on the southeast exterior corner of the Site to a depth of 3-feet bgs, south and east of former sample location BUC-11. Two (2) soil samples will be collected from each location at 1-feet and 3-feet bgs. Samples collected at 1-foot bgs will be analyzed for TPH using Method 8015 Extended, whereas the samples collected at 3-feet bgs will be held for analysis pending analytical results of the samples collected at 1-foot bgs. Sample locations D-25 and D-26 will provide lateral delineation for TPH on former sample location BUC-11. Two (2) shallow soil borings are also proposed for assessment on the interior of the Site. Specifically, two (2) locations (D-27 and D-28) are proposed for installation to a depth of 3-feet bgs. Both locations are located east of former location CD-1. Two soil samples from each location are proposed to be collected from a depth of 1-foot and 3-foot bgs and analyzed for chlorides (Method 300.0) and TPH (Method 8015 Extended).

Finally, four (4) locations are proposed as "backup" confirmation locations (BUC-20 through BUC-23) for future assessment without the requirement to re-mobilize to the Site. All four (4) "backup" confirmation locations will be installed to a depth of 3-feet bgs. Two (2) soil samples will be collected from each location at a depth of 1-foot and 3-foot bgs. All soil samples collected from the "backup" confirmation locations will be held for analysis pending analytical results from delineation sample locations (D-22 through D-28). Sample location BUC-20 will be installed east of former sample location CD-2, whereas BUC-21 will be installed north-northeast of former sample location CD-2. Sample location BUC-22 will be installed west northwest of former sample location CD-1, whereas BUC-23 will be installed south-southwest of former sample location CD-1.

All soil samples will be collected in laboratory prepared glassware and placed in a cooler on ice, following chain-of-custody protocols. The samples will be transported to a selected analytical laboratory along with a completed chain-of-custody form and submitted for analysis of the parameters specified above.

Three (3) duplicate soil samples will be collected from the set of discrete soil samples during the additional assessment phase of the project to document quality assurance/quality control (QA/QC). These soil samples will be analyzed for chlorides (Method 300.0) and TPH (Method 8015 Extended).

In the event that laboratory analyses and/or field screening does not indicate residual soil concentrations below the NMOCD remediation standards in the off-Site areas, an additional work plan will be submitted for approval.

DELIVERABLES

At the conclusion of all field activities proposed under this work plan, a formal report will be prepared outlining the techniques and methods utilized to complete the vertical and lateral delineation on the off-Site property, incorporating soil boring logs and laboratory analytical reports.

We appreciate your assistance on this project and look forward to a successful completion of the outlined procedure. Upon your review and approval, C&J Energy Services will begin the process. If you have any questions regarding any aspect of this proposed work plan, please do not hesitate to contact us at any time.

Sincerely,

EnTech Consulting Corp.

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ATTACHMENTS:

Table 1 – Laboratory Analytical Results
Table 2 – Proposed Sample Locations and Required Analytical
Figure 1 – Site Location Map
Figure 2 – Site Map
Figure 3 – Additional Sample Locations for Delineation

TABLE 1 - LABORATORY ANALYTICAL RESULTS
CJES, State AB SWD #1, Lea County, New Mexico

Sample Location ID	Laboratory ID	Date	Time	Depth Collected (inches bgs)	PID (ppmv)	Chlorides (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethylbenzene (ug/Kg)	Xylene (ug/Kg)	TPH [GRO: C6-C10] (mg/Kg)	TPH [DRO:C10-C22] (mg/Kg)	Q	TPH [MRO: C22-C36] (mg/Kg)	Q	TPH [C6-C35] (mg/Kg)
	Regulatory Limit - Chloride Regulatory Limit - TPH					600.00										100.00
BG-1	TD16243-13	2/5/2018	725	2"-3"	5.4	11.3	NA	NA	NA	NA	<2.6	5.07		31.8		36.87
BG-2	TD16243-14	2/5/2018	728	2"-3"	7.3	24.8	NA	NA	NA	NA	<2.5	<2.5		18.7		18.7
BG-3	TD16243-15	2/5/2018	731	2"-3"	2.5	10.8	NA	NA	NA	NA	<3.7	5.17	J	24.7		29.87
BG-4	TD16243-16	2/5/2018	735	2"-3"	3.1	8.3	NA	NA	NA	NA	<3.2	5.06	J	26.6		31.66
BG-5	TD16243-17	2/5/2018	739	2"-3"	7.1	10.5	NA	NA	NA	NA	<2.6	3.08	J	20.9		23.98
BG-6	TD16243-18	2/5/2018	743	2"-3"	9.1	14	NA	NA	NA	NA	<2.5	3.35	J	30.8		34.15
BG-7	TD16243-19	2/5/2018	805	2"-3"	2.2	6.4	NA	NA	NA	NA	<2.5	5.07		36.2		41.27
BG-8	TD16243-20	2/5/2018	809	2"-3"	4.8	6.4	NA	NA	NA	NA	<2.5	3.99	J	26.9		30.89
BG-9	TD16243-21	2/5/2018	813	2"-3"	6.0	<5.1	NA	NA	NA	NA	<2.6	<2.6		7.09		7.09
BG-10	TD16243-22	2/5/2018	817	2"-3"	5.3	5.7	NA	NA	NA	NA	<2.7	3.32	J	17.2		20.52
DUP-1 (BG-1)	TD16243-23	2/5/2018	725	2"-3"	5.4	30.8	NA	NA	NA	NA	<2.5	<2.5		17.1		17.1
B-1@5	TD16243-1	2/5/2018	1124	5-feet	4.0	382	NA	NA	NA	NA	<2.7	<2.7		10.3		10.3
B-1@10	TD16243-2	2/5/2018	1126	10-feet	4.9	318	NA	NA	NA	NA	<2.5	<2.7		4.91	J	4.91
B-1@20	TD16243-3	2/5/2018	1215	20-feet	4.7	171	NA	NA	NA	NA	<2.9	<2.7		4.83	J	4.83
B-2@5	TD16243-4	2/5/2018	1205	5-feet	7.9	308	NA	NA	NA	NA	<2.7	47.5		295		**342.5**
B-2@10	TD16243-5	2/5/2018	1210	10-feet	8.2	**956**	NA	NA	NA	NA	<2.7	<5.4		16.6		16.6
B-2@20	TD16243-6	2/5/2018	1215	20-feet	11.2	**1130**	NA	NA	NA	NA	<2.7	3.2	J	12.8		16.0
B-3@5	TD16243-7	2/5/2018	1242	5-feet	4.3	359	NA	NA	NA	NA	<2.8	21.6	J	131		**152.6**
B-3@10	TD16243-8	2/5/2018	1244	10-feet	13.0	110	NA	NA	NA	NA	<2.8	2.77	J	10.6		13.37
B-3@20	TD16243-9	2/5/2018	1250	20-feet	4.6	103	NA	NA	NA	NA	<2.6	<2.6	J	9.71		9.71
B-4@5	TD16243-10	2/5/2018	1324	5-feet	1.9	**1350**	NA	NA	NA	NA	<2.8	64.1		365		**429.1**
B-4@10	TD16243-11	2/5/2018	1325	10-feet	10.4	**662**	NA	NA	NA	NA	<3.1	4.55	J	23		27.55
B-4@20	TD16243-12	2/5/2018	1331	20-feet	3.5	**811**	NA	NA	NA	NA	<5.8	3.01	J	13.8		16.81
Berm-1	TD14096-1	12/19/2017	1715			**4720**	<0.011	<0.036	<0.0089	<0.0065	12.8	84.8		68.6		**166.2**
Berm-2	TD14096-2	12/19/2017	1720			**2980**	<0.013	<0.040	<0.0098	<0.0071	<6.4	5.78		7.21		12.99
CD-1@6		2/7/2018	1030		No recovery											
CD-1@18	TD16439-38	2/7/2018	1030	18	1.9	**2760**	NA	NA	NA	NA	<5.3	28.4		116		**144.4**
CD-1@30	TD16439-39R	2/7/2018	1030	30	4.3	NA	NA	NA	NA	NA	<5.2	17.1		45.8		62.9
DUP-2 (CD-1@18)	TD16439-45	2/7/2018	1030	18	1.9	**963**	NA	NA	NA	NA	<5.3	25.3		93.7		**119**
CD-2@6	TD16439-40	2/7/2018	1440	6	1.9	**1360**	NA	NA	NA	NA	<5.6	4.12	J	11.7		15.82
CD-2@12	TD16439-41	2/7/2018	1440	12	3.7	**1100**	NA	NA	NA	NA	<5.6	3.53	J	8.22		11.75
CD-2@30	TD16439-42B	2/7/2018	1440	30	2.8	**1180**	NA	NA	NA	NA	NA	NA		NA		NA
CD-3@4	TD16439-43	2/7/2018	1710	4	3.7	129	NA	NA	NA	NA	<5.6	3.74	J	9.07		12.81
CD-3@7	TD16439-44	2/7/2018	1710	7	1.2	110	NA	NA	NA	NA	<5.7	4.51	J	6.76		11.27
CD-3@7					refusal											
CD-4@6	TD16466-1	2/8/2018	935	6	0.3	78.6	NA	NA	NA	NA	5.75	2.82	J	6.69		15.26
CD-4@18	TD16466-2	2/8/2018	935	18	0.7	84.8	NA	NA	NA	NA	6.6	3.39	J	6.42		16.41
CD-4@30	**HOLD**	2/8/2018	935		0.8											

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	Regulatory Limit - Chloride Regulatory Limit - TPH					600.00										100.00
CD-5@6	TD16466-4	2/8/2018	1035	6	0.3	191	NA	NA	NA	NA	7.2	4.41	J	25.1		36.71
CD-5@16	TD16466-5	2/8/2018	1035	16	0.1	44.2	NA	NA	NA	NA	6.69	<2.9		4.08	J	10.77
CD-5@28	**HOLD**	2/8/2018	1035	28	0.1	NA	NA	NA	NA	NA	NA	NA		NA		NA
CD-6@6	TD16466-7	2/8/2018	1347	6	4.1	25.7	NA	NA	NA	NA	5.64	<2.7		3.36	J	9
CD-6@8	TD16466-8	2/8/2018	1347	8	5.6	80.8	NA	NA	NA	NA	<7.0	3.92	J	<3.1		3.92
CD-6@8									refusal							
CD-7@6	TD16466-9	2/8/2018	1358	6	2.8	38.9	NA	NA	NA	NA	<5.9	4.19	J	4.85	J	9.04
CD-7@8	TD16466-10	2/8/2018	1358	8	3.7	210	NA	NA	NA	NA	<5.6	7.04		8.36		15.4
CD-7@8									refusal							
D-1@6	TD16439-1	2/7/2018	1055	6	5.9	**5120**	NA	NA	NA	NA	<6.2	15.8		54.9		70.7
D-1@18	TD16439-2	2/7/2018	1055	18	16	**4410**	NA	NA	NA	NA	<5.9	5.18		10.5		15.68
D-1@28									refusal							
D-2@6	TD16439-3	2/7/2018	1117	6	4.6	**1360**	NA	NA	NA	NA	<5.7	4.85	J	16.9		21.75
D-2@24	TD16439-4	2/7/2018	1117	24	8.9	**1510**	NA	NA	NA	NA	<6.5	<2.9		<2.9		<6.5
D-2@28									refusal							
D-3@6	TD16439-5	2/7/2018	1146	6	5.8	**979**	NA	NA	NA	NA	<5.6	13.6		66.8		80.4
D-3@12	TD16439-6	2/7/2018	1146	12	6.3	**1090**	NA	NA	NA	NA	<5.9	6.64		32.8		39.44
D-3@28	TD16439-7B	2/7/2018	1146	28	6.3	**749**	NA	NA	NA	NA	NA	NA		NA		NA
D-4@6	TD16439-8	2/7/2018	1205	6	6.8	**2870**	NA	NA	NA	NA	<5.5	35.3		150		**185.3**
D-4@12	TD16439-9	2/7/2018	1205	12	4.1	**1700**	NA	NA	NA	NA	<5.9	16.2		60		76.2
D-4@28	TD16439-10B	2/7/2018	1205	28	3.8	**3590**	NA	NA	NA	NA	NA	NA		NA		NA
DUP-3 (D-4@12)	TD16439-46	2/7/2018	1205	12	4.1	**1290**	NA	NA	NA	NA	<5.7	19.4		69.1		88.5
D-5@6	TD16439-11	2/7/2018	1217	6	2.2	**1920**	NA	NA	NA	NA	<5.3	20.7		66.1		86.8
D-5@12	TD16439-12	2/7/2018	1217	12	4.3	**2220**	NA	NA	NA	NA	<5.6	148		319		**467**
D-5@28	TD16439-13B	2/7/2018	1217	28	5	**1670**	NA	NA	NA	NA	<5.2	22.7		42		64.7
D-6@6	TD16439-14	2/7/2018	1230	6	3.8	**2460**	NA	NA	NA	NA	<5.6	14.3		54.1		68.4
D-6@9	TD16439-15	2/7/2018	1230	9	3.5	**1920**	NA	NA	NA	NA	<5.3	8.07		20.3		28.37
D-6@10									refusal							
D-7@6	TD16439-16	2/7/2018	1253	6	3	**2120**	NA	NA	NA	NA	<5.3	47.8		120		**167.8**
D-7@10	TD16439-17	2/7/2018	1253	10	3.1	**2920**	NA	NA	NA	NA	<5.3	13.4		37.6		51
D-7@10									refusal							
D-8@6	TD16439-18	2/7/2018	1306	6	1.8	**2410**	NA	NA	NA	NA	<5.5	25.1		85.7		**110.8**
D-8@12	TD16439-19	2/7/2018	1306	12	1.2	**2060**	NA	NA	NA	NA	<5.8	11.6		55.7		67.3
D-8@24	TD-16439-20B	2/7/2018	1306	24	1.4	**1860**	NA	NA	NA	NA	NA	NA		NA		NA
DUP-4 (D-8@6)	TD16439-47	2/7/2018	1306	6	1.8	**2700**	NA	NA	NA	NA	<5.5	20.5		75.9		96.4
D-9@6	TD16439-21	2/7/2018	1508	6	0.3	142	NA	NA	NA	NA	<5.4	3.86		13.7		17.56
D-9@10	TD16439-22	2/7/2018	1508	10	0.5	242	NA	NA	NA	NA	<5.5	3.5	J	7.74		11.24
D-9@10									refusal							

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	Regulatory Limit - Chloride Regulatory Limit - TPH					600.00										100.00
D-10@6	TD16439-23	2/7/2018	1532	6	0.4	204	NA	NA	NA	NA	<5.7	2.79	J	4.1	J	6.89
D-10@9	TD16439-24	2/7/2018	1532	9	0.5	492	NA	NA	NA	NA	<5.4	6.65		35.7		42.35
D-10@9									refusal							
D-11@6	TD16439-25	2/7/2018	1600	6	0.4	94.3	NA	NA	NA	NA	<5.8	3.94	J	7.07		11.01
D-11@9	TD16439-26	2/7/2018	1600	9	0.8	95.2	NA	NA	NA	NA	8.89	5.84		17.2		23.04
D-11@9									refusal							
D-12@6	TD16439-27	2/7/2018	1624	6	0.5	72.9	NA	NA	NA	NA	<5.2	4.79	J	13.9		18.69
D-12@9	TD16439-28	2/7/2018	1624	9	1	71.9	NA	NA	NA	NA	<5.2	13.5		108		**121.5**
D-12@9									refusal							
D-13@6	TD16439-29	2/7/2018	1630	6	0.8	**1170**	NA	NA	NA	NA	<5.6	3.75	J	9.01		12.76
D-13@8	TD16439-30	2/7/2018	1630	8	0.5	**1090**	NA	NA	NA	NA	<5.6	4.44	J	14.4		18.84
D-13@20	TD16439-31B	2/7/2018	1630		1.6	185	NA	NA	NA	NA	NA	NA		NA		NA
D-14@6	TD16439-32	2/7/2018	1443	6	0.6	428	NA	NA	NA	NA	<5.7	4.95	J	12.8		17.75
D-14@9	TD16439-33	2/7/2018	1443	9	1	**753**	NA	NA	NA	NA	<5.2	4.59	J	16.1		20.69
D-14@9									refusal							
D-15@6	TD16439-34	2/7/2018	1452	6	0.8	**1990**	NA	NA	NA	NA	<5.8	3.86	J	10.9		14.76
D-15@20	TD16439-35	2/7/2018	1452	20	1.4	359	NA	NA	NA	NA	<6.2	3.21	J	<2.8		3.21
D-15@20									refusal							
D-16@6	TD16439-36	2/7/2018	1702	6	0.9	**1900**	NA	NA	NA	NA	<5.6	4.37	J	12.6		16.97
D-16@9	TD16439-37	2/7/2018	1702	9	5.2	**1790**	NA	NA	NA	NA	<5.5	3.5	J	4.24	J	7.74
D-16@9									refusal							
D-17@6	TD16466-11	2/8/2018	1016	6	0	355	NA	NA	NA	NA	<6.8	5.63	J	14.7		20.33
D-17@16	TD16466-12	2/8/2018	1016	16	0.1	260	NA	NA	NA	NA	<6.4	43.7		154		**197.7**
D-17@16									refusal							
D-18@6	TD16466-13	2/8/2018	1100	6	0	600	NA	NA	NA	NA	<6.6	8.87		26.5		35.37
D-18@24	TD16466-14	2/8/2018	1100	24	0.2	**838**	NA	NA	NA	NA	<6.1	12.8		33.8		46.6
D-18@28	TD16466-15R	2/8/2018	1100	28	0.1	197	NA	NA	NA	NA	NA	NA		NA		NA
DUP-9 (D-18@6)	TD16466-23	2/8/2018	1100	6	0	**692**	NA	NA	NA	NA	<5.6	6.59		20.7		27.29
D-19@6	TD16466-16	2/8/2018	1111	6	0	222	NA	NA	NA	NA	<5.7	83.9		300		**383.9**
D-19@18	TD16466-17	2/8/2018	1111	18	0.1	308	NA	NA	NA	NA	<4.9	26.6		107		**133.6**
D-19@30	TD16466-18A	2/8/2018	1111	30	0.1	NA	NA	NA	NA	NA	<5.6	12.4		39.8		52.2
D-20@6	TD16466-19	2/8/2018	1253	6	1.2	80.2	NA	NA	NA	NA	<6.2	3.7	J	3.8	J	7.5
D-20@13	TD16466-20	2/8/2018	1253	13	1.3	158	NA	NA	NA	NA	<6.8	7.3		16.9		24.2
D-20@13									refusal							
D-21@6	TD16466-21	2/8/2018	1302	6	2.5	66.9	NA	NA	NA	NA	<6.9	6.51		14.7		21.21
D-21@13	TD16466-22	2/8/2018	1302	13	1.2	85.2	NA	NA	NA	NA	<7.3	5.57	J	11		16.57
D-21@13									refusal							
DUP-10 (D-21@6)	TD16466-24	2/8/2018	1302	6	2.5	<5.6	NA	NA	NA	NA	<6.1	12.6		48.1		60.7

TABLE 1 - LABORATORY ANALYTICAL RESULTS
CJES, State AB SWD #1, Lea County, New Mexico

Sample Location ID	Laboratory ID	Date	Time	Depth Collected (inches bgs)	PID (ppmv)	Chlorides (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethylbenzene (ug/Kg)	Xylene (ug/Kg)	TPH [GRO: C6-C10] (mg/Kg)	TPH [DRO:C10-C22] (mg/Kg)	Q	TPH [MRO: C22-C36] (mg/Kg)	Q	TPH [C6-C35] (mg/Kg)
	Regulatory Limit - Chloride Regulatory Limit - TPH					600.00										100.00
BUC-1@6		2/8/2018	1500	5	3.2											
BUC-1@8	TD16424-2A	2/8/2018	1500	8	1.1	**1530**	NA	NA	NA	NA	NA	NA		NA		NA
BUC-1@9					refusal											
BUC-2@6		2/8/2018	1520	6	1.9											
BUC-2@12		2/8/2018	1520	12	0.4											
BUC-2@12					refusal											
BUC-3@6		2/8/2018	1545	6	1.8											
BUC-3@10		2/8/2018	1545	10	5.4											
BUC-3@10					refusal											
BUC-4@6		2/8/2018	1608	6	4.3											
BUC-4@9		2/8/2018	1608	9	1.9											
BUC-4@9					refusal											
BUC-5@6	TD16424-9R	2/8/2018	1615	6	3.7	18.5	NA	NA	NA	NA	10.5	9.31		42.1		61.91
BUC-5@12	TD16424-10R	2/8/2018	1615	12	2.1	20.1	NA	NA	NA	NA	<5.9	7.56		16.6		24.16
BUC-5@12					refusal											
BUC-6@6		2/8/2018	855	6	0.6											
BUC-6@8	TD16489-2R	2/8/2018	855	8	1.7	186	NA	NA	NA	NA	NA	NA		NA		NA
BUC-6@8					refusal											
BUC-7@6		2/8/2018	903	6	1.3											
BUC-7@10	TD16489-4R	2/8/2018	903	10	1.3	62.6	NA	NA	NA	NA	NA	NA		NA		NA
BUC-7@10					refusal											
BUC-8@6		2/8/2018	913	6	1.1											
BUC-8@8	TD16489-6R	2/8/2018	913	8	1.3	68.1	NA	NA	NA	NA	NA	NA		NA		NA
BUC-8@8					refusal											
BUC-9@6	TD16489-7R	2/8/2018	923	6	1.2	43.6	NA	NA	NA	NA	NA	NA		NA		NA
BUC-9@12	TD16489-8R	2/8/2018	923	12	1.5	29.3	NA	NA	NA	NA	NA	NA		NA		NA
BUC-9@12					refusal											
BUC-10@6		2/8/2018	946	6	1.5											
BUC-10@16		2/8/2018	946	16	0.4											
BUC-10@24		2/8/2018	946	24	0.7											
DUP-6 (BUC-10@24)		2/8/2018	946	24	0.7											
BUC-11@6	TD16489-12A	2/8/2018	1006	6	0.2	358	NA	NA	NA	NA	<5.7	26.7		110		**136.7**
BUC-11@13	TD16489-13A	2/8/2018	1006	13	0.5	441	NA	NA	NA	NA	<5.4	7.44		19.1		26.54
BUC-11@13					refusal											
DUP-7 (BUC-11@13)	TD16489-34R	2/8/2018	1006	13	0.5	500	NA	NA	NA	NA	NA	NA		NA		NA

TABLE 1 - LABORATORY ANALYTICAL RESULTS
CJES, State AB SWD #1, Lea County, New Mexico

Sample Location ID	Laboratory ID	Date	Time	Depth Collected (inches bgs)	PID (ppmv)	Chlorides (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethylbenzene (ug/Kg)	Xylene (ug/Kg)	TPH [GRO: C6-C10] (mg/Kg)	TPH [DRO:C10-C22] (mg/Kg)	Q	TPH [MRO: C22-C36] (mg/Kg)	Q	TPH [C6-C35] (mg/Kg)
	Regulatory Limit - Chloride Regulatory Limit - TPH					600.00										100.00
BUC-12@6	TD16489-14A	2/8/2018	1025	6	0.2	43.3	NA	NA	NA	NA	<6.2	15.4		49.5		64.9
BUC-12@18	TD16489-15A	2/8/2018	1025	18	0.3	28.6	NA	NA	NA	NA	<5.6	14.9		67.6		82.5
BUC-12@18					refusal											
BUC-13@6		2/8/2018	1050	6	0.2											
BUC-13@20		2/8/2018	1050	20	0.2											
BUC-13@30		2/8/2018	1050	30	0.3											
BUC-14@6		2/8/2018	1125	6	0.4											
BUC-14@24		2/8/2018	1125	24	0.2											
BUC-14@32		2/8/2018	1125	32	0.3											
BUC-15@6	TD16489-22R	2/8/2018	1245	6	3.8	47.9	NA	NA	NA	NA	NA	NA		NA		NA
BUC-15@24	TD16489-23R	2/8/2018	1245	24	2.4	**658**	NA	NA	NA	NA	NA	NA		NA		NA
BUC-15@30	TD16489-24R	2/8/2018	1245	30	2.6	**1650**	NA	NA	NA	NA	NA	NA		NA		NA
BUC-16@6		2/8/2018	1313	6	4.6											
BUC-16@9	TD16489-26R	2/8/2018	1313	9	4.6	317	NA	NA	NA	NA	NA	NA		NA		NA
BUC-16@9					refusal											
BUC-17@6		2/8/2018	1320	6	3.2											
BUC-17@8		2/8/2018	1320	8	3.3											
BUC-17@8					refusal											
BUC-18@6		2/8/2018	1329	6	3											
BUC-18@9	TD16489-30R	2/8/2018	1329	9	4.8	22.6	NA	NA	NA	NA	NA	NA		NA		NA
BUC-18@9					refusal											
DUP-8 (BUC-18@9)	TD16489-35R	2/8/2018	1329	9	4.8	37.0	NA	NA	NA	NA	NA	NA		NA		NA
BUC-19@6		2/8/2018	1336	6	5.7											
BUC-19@8	TD16489-32R	2/8/2018	1336	8	3.9	40.5	NA	NA	NA	NA	NA	NA		NA		NA
BUC-19@8					refusal											

Bolded results indicate an exceedance over established concentrations.

NA - not analyzed

"J" - indicates an estimated value

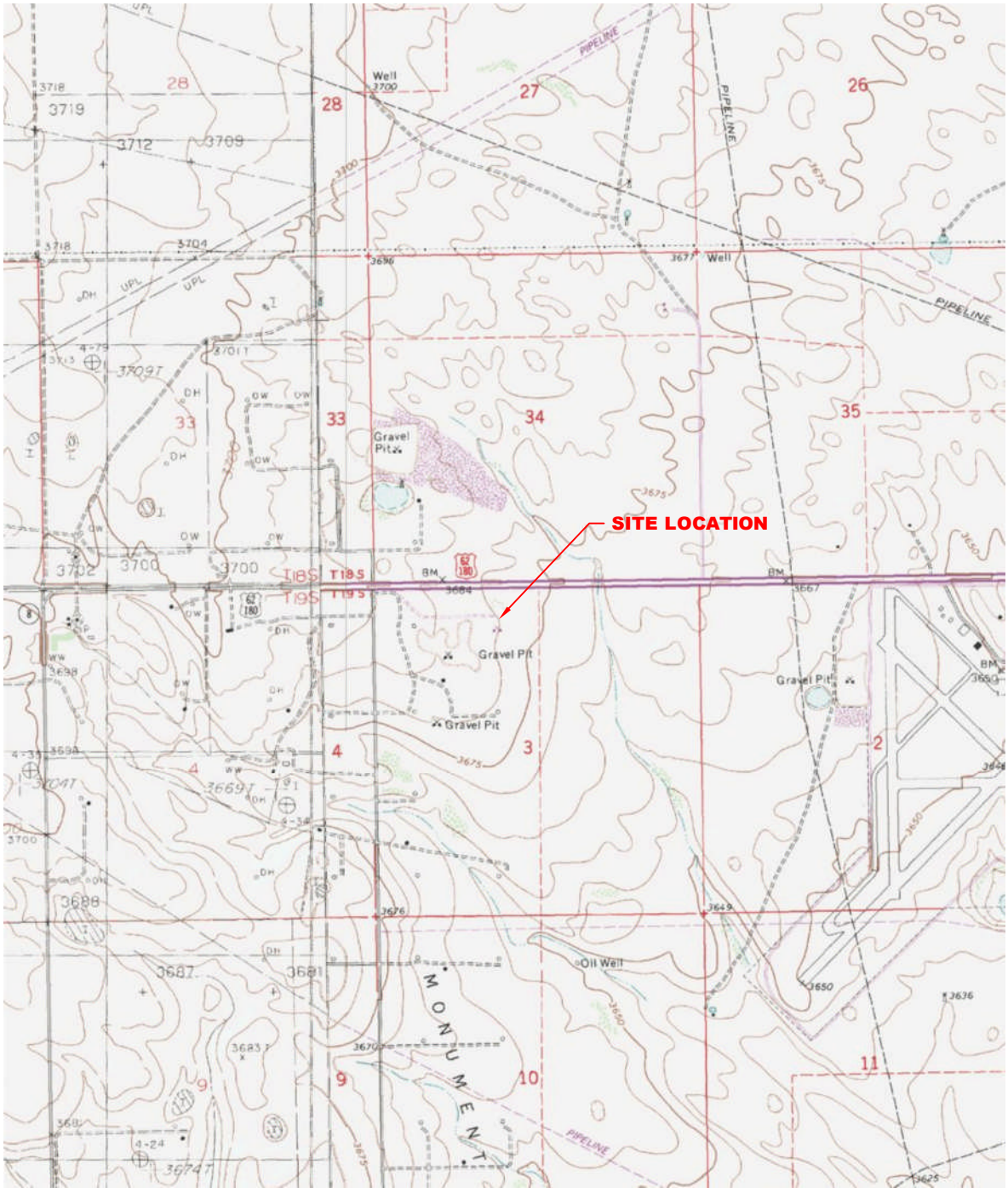
TABLE 2 - PROPOSED SAMPLE LOCATIONS AND REQUIRED ANALYTICAL
CJES, State AB SWD #1, Lea County, New Mexico

Proposed Location	Location Description	Sample Depth (feet BGS)	Required Analytical
D-22	Approx. 37-feet north of CD-2 on exterior east side of Site	1	chloride
		3	chloride
D-23	Approx. 30-feet east-northeast of CD-2 on exterior east side of Site	1	chloride
		3	chloride
D-24	Approx. 30-feet east of BUC-1 on exterior east side of Site	1	chloride
		3	HFA
D-25	Approx. 37-feet east of BUC-11 on southeast exterior corner of Site	1	TPH
		3	HFA
D-26	Approx. 22-feet southeast of BUC-11 on southeast exterior corner of Site	1	TPH
		3	HFA
D-27	Approx. 44-feet southeast of CD-1 on interior of Site	1	chloride/TPH
		3	chloride/TPH
D-28	Approx. 37-feet east of CD-1 on interior of Site	1	chloride/TPH
		3	chloride/TPH
BUC-20	Approx. 78-feet east of CD-2 on exterior NE corner of Site	1	HFA
		3	HFA
BUC-21	Approx. 75-feet north-northeast of CD-2 on exterior east side of Site	1	HFA
		3	HFA
BUC-22	Approx. 70-feet northwest of CD-1 on interior center of Site	1	HFA
		3	HFA
BUC-23	Approx. 63-feet west-southwest of CD-1 on interior center of Site	1	HFA
		3	HFA
CD-8	Approx. 15-feet north of northern boundary of Site on eastern half	1-1.5	chloride/TPH
		5	chloride/TPH
CD-9	Approx. 15-feet north of northern boundary of Site on western half	1-1.5	chloride/TPH
		5	chloride/TPH
B-5	Adjoining B-4 location on southern exterior side of Site	25	chloride
		30	chloride
		35	chloride
		40	chloride
B-6	Adjoining B-2 location on eastern exterior side of Site	25	chloride
		30	chloride
		35	chloride
		40	chloride
DUP (3)	To be selected (suggest D-27, D-28, CD-8, CD-9)		chloride/TPH

HFA - hold for analysis

TPH - total petroleum hydrocarbons (Method 8015 Extended Range; GRO+DRO+MRO)

chlorides (Method 300.0)



0 1/2

Miles

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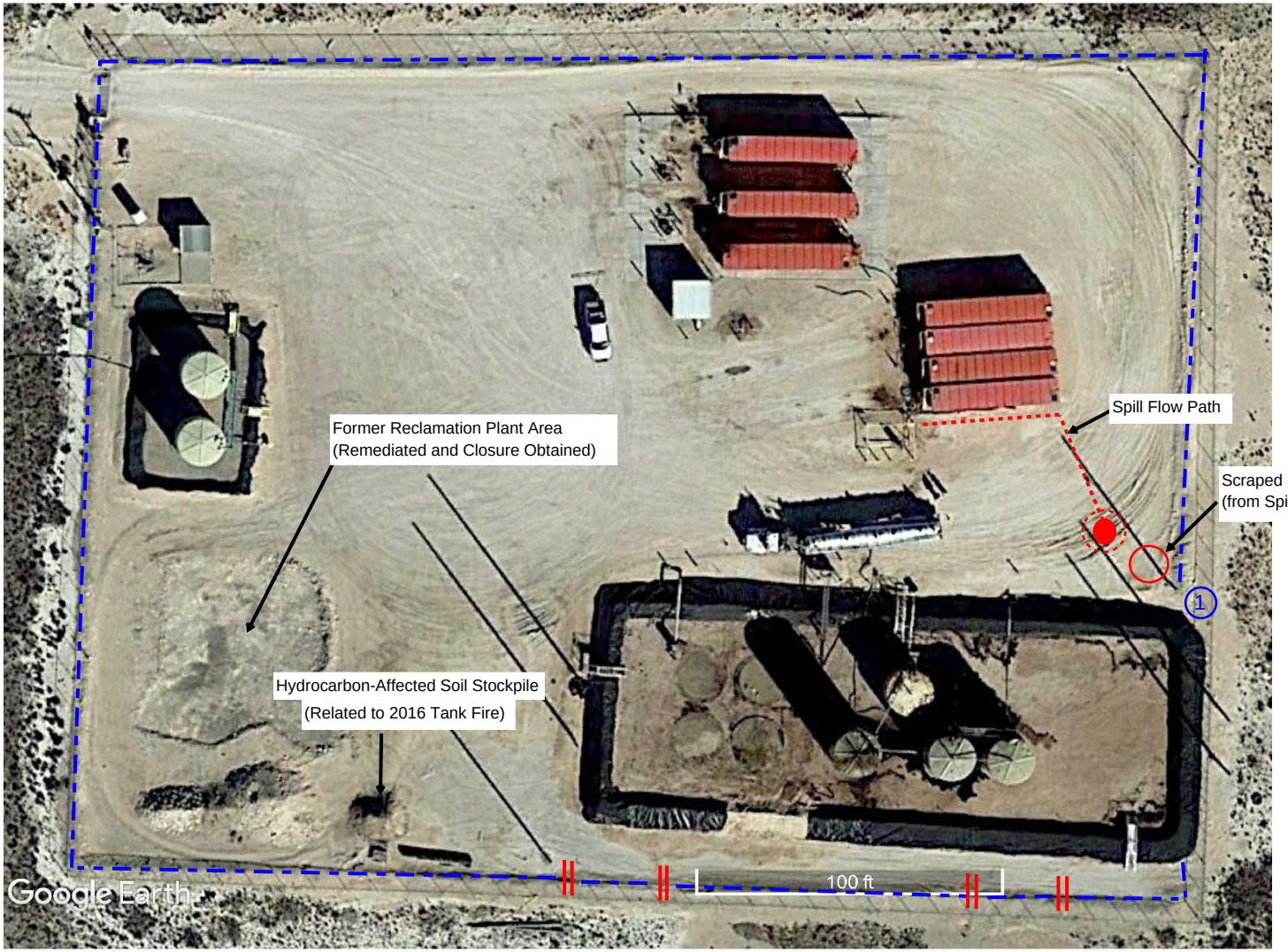
Figure 1
Site Location Map
CJES - State AB SWD #1
Hobbs, New Mexico

Job No.: CJES15051	DATE: 10/17



Legend:

- -Spill Flow Path
- -Spill - Pooled Area
- -Earthen Berm
- -Break in Earthen Berm
- 1 -Storm Water Outfall

0 100
Feet

N

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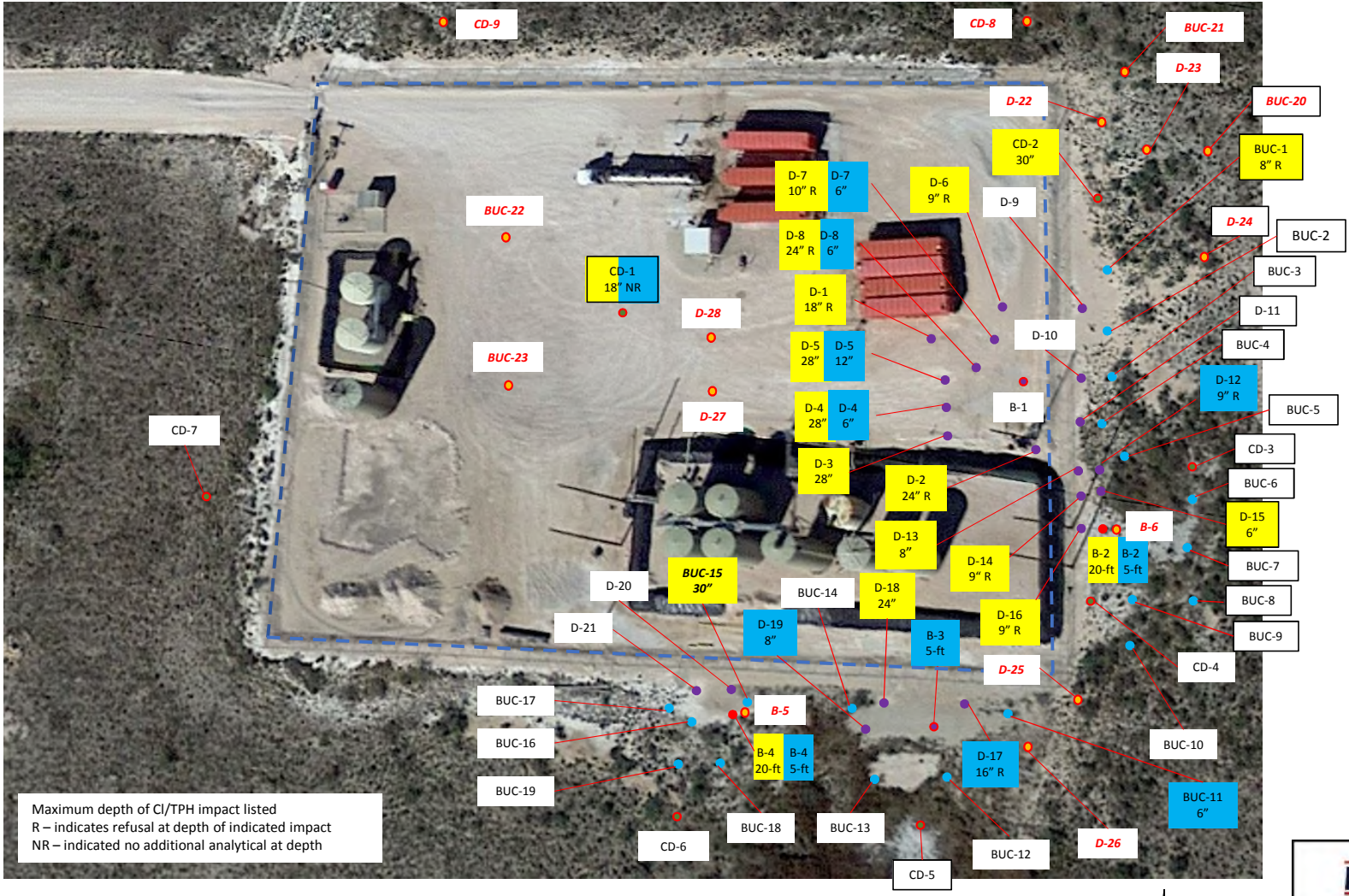
Figure 2
Site Layout
CJES -State AB SWD #1
Hobbs, New Mexico

Job No.: CJES15051	DATE: 11/17



Legend:

- Earthen Berm
- Soil Sample Locations for Delineation (D)
- Soil Sample Locations: Cardinal Directions (CD)
- Soil Sample Locations for Possible Additional Delineation (BUC)
- Deep Boring to 20-feet below ground surface (B)

- Proposed sample location
- TPH Exceedance location
- Cl Exceedance location

0′ 52′ 106′

N

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Figure 3
Additional Sample Locations for Delineation
CJES -State AB SWD #1
Hobbs, New Mexico

Job No.: CJES15051 | DATE: 11/17