El Paso
CGP Company, L.L.C.
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July 19, 2017

Randy Bayliss, PE - Hydrologist, District III
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Response to June 2, 2017 Letter
2016 Annual Groundwater Monitoring Reports for
Twelve former El Paso CGP Company, LLC groundwater pit sites

Mr. Bayliss:

El Paso CGP Company, LLC (EPCGPC), is in receipt of your June 2, 2017, letter regarding the New Mexico Oil Conservation Division's (NMOCD's) comments to the above-referenced Annual Groundwater Monitoring Reports (AGMRs). EPCGPC offers the following responses to the comments:

Comment 1): Duration of Projects. These projects have been going on for a long time. They began in the last century.

Project	*Name*	*Date of First Ground Water*
3RP-201	*Johnston Federal #4*	*08/08/1995*
3RP-207	*Knight #1*	*10/16/1995*
3RP-235	*Sandoval GC A#1A*	*05/30/1995*
3RP-196	*Jams F Bell #1E*	*10/17/1998*
3RP-204	*K-27 Line Drip*	*11/04/1996*
3RP-179	*GCU A#142E*	*10/17/1997*
3RP-407	*GCU #124E*	*06/25/1998*
3RP-239	*State Gas Com N#1*	*10/17/1995*
3RP-202	*Johnston Federal #6A*	*08/10/1995*
3RP-155	*Canada Mesa #2*	*11/04/1996*
3RP-213	*Lateral O-21 Line Drip*	*11/06/1995*
3RP-068	*Fogelson #4-1*	*11/06/1995*

Response to Comment 1) Duration of Projects. While it is true that these sites have been ongoing for many years, it should be noted that in 1997 our list of sites included over 100 locations. Please see the responses to the comments offered below regarding activities planned and/or completed at the above-referenced sites.

Comment 2): Delineation of Groundwater Contamination. Best practices call for the extent of contamination to be determined soon after its discovery. Even though these projects have been underway for some time, some of the limits of free product (NAPL) and benzene (C6H6) contamination have yet to be found, as follows. Recall the cleanup limit for C6H6 is 10 ppb and for NAPL is non-detect. Results shown are for 2016.

Project	*Name*	*Not Delineated for*
3RP-201	*Johnston Federal #4*	*Looks good*
3RP-207	*Knight #1*	*West of Monitoring Well #11 (MW11) (1,100 ppb C6H6)*
3RP-235	*Sandoval GC A#1A*	*N, W, and S of MW2 (0.43 ft NAPL)* *W, E, and S of MW5 (4,700 ppb C6H6)* *N, S, and E of MW4 (may be switched with MW2?)*
3RP-196	*James F Bell #1E*	*N and W of MW11 (3,200 ppb C6H6) N and E of MW10 (0.24 ft NAPL)*
3RP-204	*K-27 Line Drip*	*E of MW6 and MW7 (1,200 ppb C6H6) N of MW2R (0.35ft NAPL)*
3RP-179	*GCU A#142E*	*N, E, and W of MW2 (0.30 ft NAPL)* *S and W of MW7*
3RP-407	*GCU #124E*	*Looks good (after 12 years, NAPL appears in MW1)*
3RP-239	*State Gas Com N#1*	*Looks good (23,000 ppb C6H6)*
3RP-202	*Johnston Fed #6A*	*Looks good (0.09 ft NAPL)*
3RP-155	*Canada Mesa #2*	*N, S, and W of MW1 (0.03ft NAPL)*
3RP-213	*Lateral O-21 Drip*	*Poor all directions, only 3 MWs, 2 are dry, 2 w/ historic NAPL*
3RP-068	*Fogelson #4-1*	*Poor all directions, only 3 MWs*

Response to Comment 2) Delineation of Groundwater Contamination. EPCGP offers the following responses regarding delineation efforts for the above-referenced projects, in the order as presented above:

Project	Name	Comment
3RP-201	Johnston Federal #4	No further delineation is planned at this time.
3RP-207	Knight #1	Installation of two additional monitoring wells, one west of MW-11, and one southwest of MW-12, is planned for 2018. A work plan will be submitted to NMOCD prior to that activity.
3RP-235	Sandoval GC A#1A	As noted in the 2016 Annual Groundwater Monitoring Report, EPCGP has learned that BP has experienced a release at this site, and multiple monitoring wells installed by others are present. Additional information regarding the nature and extent of the BP release has not been located in NMOCD online files. EPCGP believes information on the BP release should be reviewed before determining what, if any, additional delineation work may be required of EPCGP. As noted in the 2016 Annual Groundwater Monitoring Report, it is believed the MW-4 and MW-2 samples from the April 19, 2016 groundwater sampling event were switched, and additional assessment east of MW-4 is not warranted.

3RP-196	James F Bell #1E	Installation of five additional monitoring wells at this site is planned for late 2017, to better delineate groundwater concentrations. A work plan will be submitted to NMOCD prior to that activity.
3RP-204	K-27 Line Drip	EPCGP is awaiting the results of the 2017 groundwater monitoring activities and effectiveness of the planned MDPE activities prior to submitting a scope of work of additional delineation activities. Delineation north of MW-2R is planned for 2018.
3RP-179	GCU A#142E	As noted in the 2016 Annual Groundwater Monitoring Report, EPCGP has learned that BP has experienced a release at this site, and multiple monitoring wells installed by others are present. Additional information regarding the nature and extent of the release has not been located in NMOCD online files. EPCGP believes information on the BP release should be reviewed before determining what, if any, additional delineation work may be required of EPCGP.
3RP-407	GCU #124E	No further delineation is planned at this time.
3RP-239	State Gas Com N#1	No further delineation is planned at this time. A work plan to complete remedy evaluation activities at the Site was approved by the NMOCD on July 5, 2017, and is pending receipt of an updated Water Easement from the State of New Mexico.
3RP-202	Johnston Fed #6A	No further delineation is planned at this time.
3RP-155	Canada Mesa #2	As noted in the 2016 Annual Groundwater Monitoring Report, the Site was reclaimed in late 2016 by the former operator, and delineation around monitoring well MW-1 is planned for 2018. A work plan will be submitted to NMOCD prior to that activity.
3RP-213	Lateral O-21 Drip	A work plan to conduct additional assessment was submitted to the NMOCD on March 15, 2017, and assessment activities were completed in early April, 2017. Assessment activities included replacement of the two dry monitoring wells and installation of three additional monitoring wells. June 2017 groundwater sampling results indicate groundwater at the Site has been delineated.

3RP-068	Fogelson #4-1	A work plan to conduct additional assessment was submitted to the NMOCD on March 15, 2017, and assessment activities were completed in early April 2017. Assessment activities included the installation of four additional monitoring wells. June 2017 groundwater sampling results indicate additional groundwater delineation may be required. Additional groundwater monitoring in planned in 2017 to determine the scope of additional assessment needed. If necessary, additional assessment work would be conducted in 2018.

The results of the activities completed in 2017 will be documented in the 2017 Annual Groundwater Monitoring Report for each site, to be submitted by April 1, 2018.

Comment 3): Recovery of LNAPL. Unless NAPL is aggressively recovered, these groundwater projects will go on for years. Use of absorbent socks placed or of hand baling in monitoring wells is passive and is suited for use only after aggressive mechanical systems have removed the bulk of contamination. The online documents show bailing of NAPL up to 2011. The records seem incomplete after that. Recovery of contamination is summarized below.

Project	*Name*	*Wells NAPL 2016*		*Recovery 2016*
3RP-201	*Johnston Federal #4*	*4*	*max 0.76 ft*	*7.1 gal bailed* *22 gal+85 lb vapor MDPE in 16 hours*
	[bailing twice yearly 1996-2011 in 2 MW recovered 22.7 gal]			
3RP-196	*James f Bell #1E*	*3*	*max 0.24 ft*	*1.81 gal bailed* *20 gal+137 lb vapor MDPE in 16 hours*
	[NAPL discovered in new MWs 8 & 10] *[bailing between 1996-2011 in 2 MW recovered 891 gal; 1.7 gal/bailing event]*			
3RP-202	*Johnston Fed #6A*	*1*	*max 0.09 ft*	*5 gal MDPE in 7 hours (mostly vapor)*
	[bailing between 2009-2011 in 3 MW recovered 18.8 gal]			
3RP-239	*State Gas Com N#1*	*3*	*max 0.99 ft*	*1.68 gal bailed*
	[bailing between 1996-2011 in 7 MW recovered 274 gal]			
3RP-204	*K-27 Line Drip*	*1*	*max 0.35 ft*	*None*
	[bailing between 2001-2011 in 3 MW recovered 12.3 gal]			
3RP-207	*Knight #1*	*1*	*max 0.62 ft*	*None*
	[bailing between 2000-2011 in 3 MW recovered 9.9 gal]			
3RP-235	*Sandoval GC A#1A*	*1*	*max 0.43 ft*	*None*
	[ground water sampling since 1995, NAPL first appeared in 2016]			

3RP-179 GCU A#142E 1 max 0.30 ft None
[bailing between 2010-2011 in 3 MW recovered 1.0 gal]

With less than a day of aggressive mechanical recovery (MDPE), you can recover more NAPL than by decades of hand bailing. The three MDPE projects demonstrated the success of NAPL and C6H6 recovery, even when NAPL thickness was marginal. Likewise, the results of hand bailing demonstrate its inefficiency and futility. It's clear that what's been done so far isn't working and we're chasing the contamination plumes downgradient with progressions of monitoring wells. We're pleased you've shown insights into using advanced recovery methods.

Response to Comment 3) Recovery of LNAPL. Regarding the noted absence of information after 2011, it appears that documents uploaded to the NMOCD Electronic Documents (EDOCs) folder between 2013 and 2015, have not been moved to the applicable NMOCD Administrative/Environmental Order Intranet pages. If desired, EPCGP can resubmit these reports to you via electronic mail in a pdf format to update your records.

EPCGP offers the following information regarding 2017 LNAPL thicknesses and recovery efforts for the above-referenced projects, in the order as presented above:

Project	Name	2017 Recovery Activities
3RP-201	Johnston Federal #4	MDPE activities with recovery from four wells, as outlined in the June 29, 2017 LNAPL Recovery Work Plan. These activities were initiated on July 15, 2017.
3RP-196	James F Bell #1E	MDPE activities with recovery from two wells, as outlined in the June 29, 2017 LNAPL Recovery Work Plan were initiated on July 12, 2017.
3RP-202	Johnston Fed #6A	MDPE activities with recovery from one well, as outlined in the June 29, 2017 LNAPL Recovery Work Plan were initiated on July 15, 2017.
3RP-239	State Gas Com N#1	Air Sparge and Soil Vapor Extraction feasibility testing planned as outlined in the June 28, 2017 Feasibility Test Work Plan are pending receipt of a Water Easement modification from the State of New Mexico. No measureable LNAPL was detected at the Site during the June 2016 groundwater monitoring event.
3RP-204	K-27 Line Drip	MDPE activities with recovery from one well, as outlined in the July 2, 2017 LNAPL Recovery Work Plan are to be initiated on July 26, 2017.
3RP-207	Knight #1	MDPE activities with recovery from three wells, as outlined in the June 29, 2017 LNAPL Recovery Work Plan are to be initiated on July 24, 2017.
3RP-235	Sandoval GC A#1A	Measureable LNAPL detected at this Site is believed to be associated with a BP release located west of the EPCGP area of investigation. Additional information regarding the nature and extent of the BP release has

		not been located in NMOCD online files. EPCGP believes information on the BP release should be reviewed before determining what, if any, LNAPL recovery activities may be required of EPCGP.
3RP-179	GCU A#142E	MDPE activities with recovery from one well, as outlined in the June 29, 2017 LNAPL Recovery Work Plan will be initiated on July 20, 2017.

The results of the LNAPL recovery and pilot testing activities completed in 2017 will be documented in the 2017 Annual Groundwater Monitoring Report for each site, to be submitted by April 1, 2018.

EPCGP would appreciate the opportunity to meet with you at your office to provide an update on the planned activities, and further discuss these and other EPCGP projects. Please feel free to contact me at (713) 420-3475 if you have any questions or require additional information.

Sincerely,

Joseph Wiley, P.G.
Project Manager Pipeline Remediation

Cc: Jim Griswold, Charlie Perrin, Brandon Powell, Cory Smith, Vanessa Fields, NMOCD
Stephen Varsa, Stantec