Marathon Petroleum Company LP

July 30, 2019

Mr. John E. Kieling, Chief
New Mexico Environmental Department
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, NM 87SOS-6303

RE: Response to Approval with Modifications
[Revised] Investigation Report North Drainage Ditch and OW-29 & OW-30 Areas
Marathon Petroleum Company LP, Gallup Refinery
(dba Western Refining Southwest, Inc.)
EPA ID# NMD000333211
HWB-WRG-18-008

Dear Mr. Kieling:

Marathon Petroleum Company LP (dba Western Refining Southwest, Inc.) Gallup Refinery is submitting the enclosed responses to your comments dated June 24, 2019 on the referenced Investigation Report. If there are any questions, please call Brian Moore at 505-726-9745.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,
Marathon Petroleum Company LP, Gallup Refinery

Robert S. Hanks
Refinery General Manager

Enclosure

cc K. Van Horn NMED
C. Chavez NMOCD
B. Moore Marathon Gallup Refinery

92 Giant Crossing Road
Jamestown, NM 87347

RESPONSE TO COMMENTS
June 24, 2019 Approval with Modifications [Revised] Investigation Report North Drainage Ditch and OW-29 & OW-30 Areas (April 2019)

NMED Comment 1:
The Permittee's response to NMED's Disapproval Comment 3 provides justification as to why soil samples were not collected during installation of groundwater monitoring wells. The Permittee's response is adequate since a work plan for additional investigation was submitted to NMED. Potential soil contamination should have been investigated at the same time groundwater monitoring wells were installed and soil contamination should also have been investigated more thoroughly at both sites. It does not make sense to drill through soil to investigate groundwater without collecting information regarding potential soil impacts when there is an opportunity to do so. There is often a connection between potential contamination in the soil and groundwater or vice versa, depending on conditions. NMED acknowledges that the *Investigation Work Plan North Drainage Ditch and OW-29 & OW-30 Areas* (Work Plan) was approved; however, in the future, the Permittee must propose to collect soil samples when installing monitoring wells in order to fully characterize subsurface conditions. No response is required.

MPC Response 1:
Acknowledged

NMED Comment 2:
The Permittee's response to NMED's Disapproval Comment 7 states, "[w]e refer you to the Investigation Report for the OW-14 Source Area for more information on the tank farm, as that report is more clearly focused on the source of the observed down-gradient impacts (e.g., the tank farm) while this report is focused on delineating the potential down-gradient impacts to groundwater beyond OW-14, OW-29 and OW-30, as was requested by NMED. The presentation of information in multiple investigation reports for areas that all appear to be impacted from releases within the tank farm is not particularly beneficial to the reviewer and possibly it would make more sense to eventually combine the OW-29 & OW-30 and North Drainage Ditch Investigation Report and the OW-14 Source Area Investigation into a single investigation report." Rather than combining the investigation reports a summary report of investigation results for areas affected by the tank farm will likely be helpful to illustrate the issues.

MPC Response 2:
Acknowledged

NMED Comment 3:
NMED's Disapproval Comment 11 states, "[a]lso, provide the elevation difference between the ground level at the surface compared to the ground level within the ditch where the boring was installed in the description. Revise the Report to include the type of odor encountered and include a ground elevation for all borings installed within the ditch." The Permittee's response states, "[t]he ditch is approximately one foot deep where NDD-5 was completed in the ditch. Additional surveys were completed and the surveyed locations and land surface elevation of the soil borings have been added to the boring logs in Appendix G." The purpose of NMED's comment was to be able to potentially compare soil interval descriptions, groundwater elevation, and sampling results between borings installed within the ditch compared to borings installed outside of the ditch. While adding elevations to the soil borings is helpful, adding the

information to the description of the borings installed during the investigation would have been more helpful. However, NMED's comment did not explicitly state that requirement. No response is required.

MPC Response 3:
Acknowledged.

NMED Comment 4:
The Permittee's response to NMED's Disapproval Comment 13 states, "[i]t is noted that boring NDD-12 was designated to be a hand auger boring to assess potential surface impacts and boring NDD-11, which was completed a short distance form NDD-12 pursuant to the Work Plan, was completed using a drilling rig for deeper sampling for vertical delineation (e.g., the sample collected from 12-14' in boring NDD-11)." NMED used NDD-12 as an example. Another example includes borings NDD-9/NDD-8/NDD-7 which were installed to a total depth of two feet below the ground surface. PID readings in borings NDD-9/NDD-8/NDD-7 increased with depth and the laboratory results demonstrate that boring NDD-9 (south of the ditch) contains DRO at 3,800 mg/kg and NDD-8 (within the ditch) at 6,800 mg/kg in the 1 to 2 foot interval. This suggests that contamination is also increasing with depth - had the Permittee continued to sample below depths of two feet below the ground surface, the Permittee may have completed the delineation of impacts to soil at the North Drainage Ditch (a goal of the field work as stated in the Work Plan). Additionally, the proposed and approved soil sampling interval in the Work Plan prescribed"> 2.0' (from the interval in each soil boring with the greatest apparent degree of contamination, based on field observations and field screening)" which the Permittee did not follow. No response required.

MPC Response 4:
We acknowledge NMED's comment and would add that as noted by NMED, the PID readings increased with depth, which we believe is consistent with the premise that the impacts observed in soil at these locations are the result of lateral transport of contaminated groundwater to this location and not a source within the surface soils. Therefore, we believe vertical delineation at these locations would have produced the same results observed at the transect to the northwest (NDD-10, NDD-11, and NDD-12) (i.e., impacted soils extending vertically into saturated conditions overlying bedrock).

NMED Comment 5:
The Permittee's response to Comment 18 states, "NMED states that "it would have made sense to not install a well or that the boring be left open for a period of time to see if groundwater entered the boring." Can NMED provide a specific time period that borings must be left open before plugging to satisfy NMED that groundwater is not present at a particular location? We note that NMED specified above in comment 17 that wells should be left open two weeks to see if SPH enters a well, but we were recently informed in other correspondence to leave temporary wells open for one week to see if SPH was present. It is this type of uncertainty that drives us to complete borings as permanent wells that were so designated in the approved Investigation Work Plan." Since saturation was not encountered at all at a time of drilling; groundwater will likely not enter the borehole regardless of time period the borehole is left open. It does not make sense to complete such borings as permanent wells. In cases where there are potential signs of saturation (e.g., dampness is observed) but groundwater is absent at the time of drilling, the

borehole must be left open to see if groundwater eventually enters the boring. The time period necessary to allow this to happen depends on factors such as the groundwater seepage velocity and saturated column thickness. In most cases, the time period can be estimated from existing data and field observation. Regardless, the basis for the decision to install permanent groundwater monitoring wells must be provided in all future reports, where applicable. If the Permittee cannot make such decisions based on existing data and field observations, such borings must be left open for a period of 48 hours to confirm the presence or absence of groundwater before the borehole is abandoned or converted to a permanent groundwater monitoring well. The second inquiry is the time period borings/temporary wells to be left open to confirm the presence or absence of SPH. To clarify, there is no specific rule for an observation period. The observation period is discrete and unique to the site conditions. For example, if a boring/temporary well is installed at a location where SPH may potentially be present but only groundwater (no SPH) enters the boring/tempora1y well, it must be left open for a reasonable period because the seepage velocity of SPH may be lower than that of groundwater. The SPH seepage velocity is variable depending on factors such as the properties of SPH, residual saturation level, depth to water and properties of surrounding media; therefore, it would be difficult to accurately estimate a "reasonable time period" for the boring/temporary wells be left open. The basis for the decision must be provided in all future reports, where applicable. If the Permittee cannot make such decision, the boreholes/temporary wells must be left open for a period of at least 48 hours to confirm presence or absence of SPH.

MPC Response 5:
We acknowledge NMED's comment and appreciate the guidance on timeframes to leave wells open to observe for presence of groundwater and SPH.

NMED Comment 6:
The Permittee's response to NMED Disapproval Comment 24 states, "[t]here is no information known to be available regarding the manganese concentrations in crude oil stored at the site." The manganese concentrations in crude oil must be evaluated to determine whether the elevated soil concentrations are related to crude oil. Collect crude oil samples and conduct metals analysis. Provide an analytical report that presents the results of the analysis no later than **December 31, 2019.**

MPC Response 6:
We acknowledge the comment and the requested information will be provided by the requested date.

NMED Comment 7:
The Permittee' s response to NMED Disapproval Comment 26 states, "[w]e note that the short holding times for nitrite make it extra difficult to complete the field sampling, especially for such a large number of wells as is involved in the facility-wide sampling program." NMED's Comment 4 in the *Disapproval Annual Groundwater Monitoring Report: Gallup Refinery - 2015,* dated January 31, 2018 states, "[i]nvestigate the possibility of using alternative methods to obtain separate nitrate and nitrite concentrations (e.g., colorimeters), if applicable." Onsite nitrite analysis is acceptable with an appropriate field method to accommodate the short holding time. Propose to collect groundwater samples for nitrate and nitrite separately from all groundwater monitoring wells at the site and discuss methods for onsite nitrite analysis in the upcoming Facility-Wide Groundwater Monitoring Work Plan.

MPC Response 7:
Acknowledged.

NMED Comment 8:
The Permittee's response to NMED Disapproval Comment 31 states, "[t]hese borings were completed during the earlier RFI conducted in the 1990s. As such, it is doubtful they will provide information on current environmental conditions, but they certainly help document environmental conditions when they were installed 20 plus years ago and provide valuable information on the subsurface hydrogeology. NMED request to "[I]nclude this information **in** the revised Figures 10 and 11." We are not exactly certain to what information NMED is referring, but have included the relevant hydrogeologic information on Figures 10 and 11." The Permittee also states, "[w]e propose to include a copy of all of the historic boring logs in the area **in** the new work plan required above in comment 28." Logs of the borings depicted in figures in the Report and used to provide historical context must be provided. The hydrogeologic data provided by the historic borings do not necessarily provide accurate data regarding the hydrogeologic conditions other than noting areas of sand or gravel that may be conduits for groundwater migration. In the future, if historic data is used in documents, provide the data or reference the historic documents the data are presented in and provide context in the text of the document as to why the information is included.

MPC Response 8:
Acknowledged.

NMED Comment 9:
The Permittee's response to NMED Disapproval Comment 33 states, "Section 7.2 has been revised to propose submittal of a work plan to investigate the area between the North Drainage Ditch and the tank farm." Section 7.2 (Recommendations) states, "[i]n addition, two permanent monitoring wells are recommended between the North Drainage Ditch and the tank farm." The referenced area between the North Drainage Ditch and the tank farm is located approximately 200 feet east ofNDD-4, extending southward approximately 400 feet. Figure 5 in the *Investigation Work Plan North Drainage Ditch,* dated April 2019 does not propose installation of any borings/wells in the referenced area; therefore, it does not comply with the direction provided by Comment 33. The Permittee must revise the April 2019 Work Plan to address this area.

MPC Response 9:
The requested work plan will be submitted by September 27, 2019 as directed in NMED's correspondence of June 24, 2019, which is specific to the *Investigation Work Plan North Drainage Ditch*.

NMED Comment 10:
In Section 2.1 (North Drainage Ditch) the Permittee states that, "[a]t the western end of the North Drainage Ditch, as shown on Figures 2 and 5, the ditch basically ends and there is no clearly defined channel beyond this point. It appears any flow of surface water beyond this point would move to the north along the east side of a dirt road a short distance before crossing over the road and continuing west and then southwest eventually making its way to stormwater outfall #1." It does not appear that stormwater outfall #1 is labelled on the figures. Provide a figure that depicts the location of stormwater outfall # 1.

MPC Response 10:
Please find the requested figure enclosed.

LEGEND

- CONTAINED/BERMED AREA NO STORMWATER RUN OFF DISCHARGED TO ANOTHER POINT
- AREA CONTRIBUTING FLOW TO OUTFALL 2
- DRAINS TO "GRASSY AREA" DOES NOT LEAVE SITE
- NEW STORMWATER COLLECTION BASIN
- AREA CONTRIBUTING FLOW TO OUTFALL 1
- PROCESS AREA–STORMWATER DRAINS TO POND 1
- IMPERVIOUS SURFACE
- CULVERT
- DRAINAGE CHANNEL/WATER
- NEW FACILITY
- EARTHEN BERM
- DIRECTION OF FLOW

NOTES

MAP WAS ROTATED 270° FROM CLIENT'S BASE MAP & MOVED TO NAD27(FT) COORDINATE SYSTEM (DEC 2005)

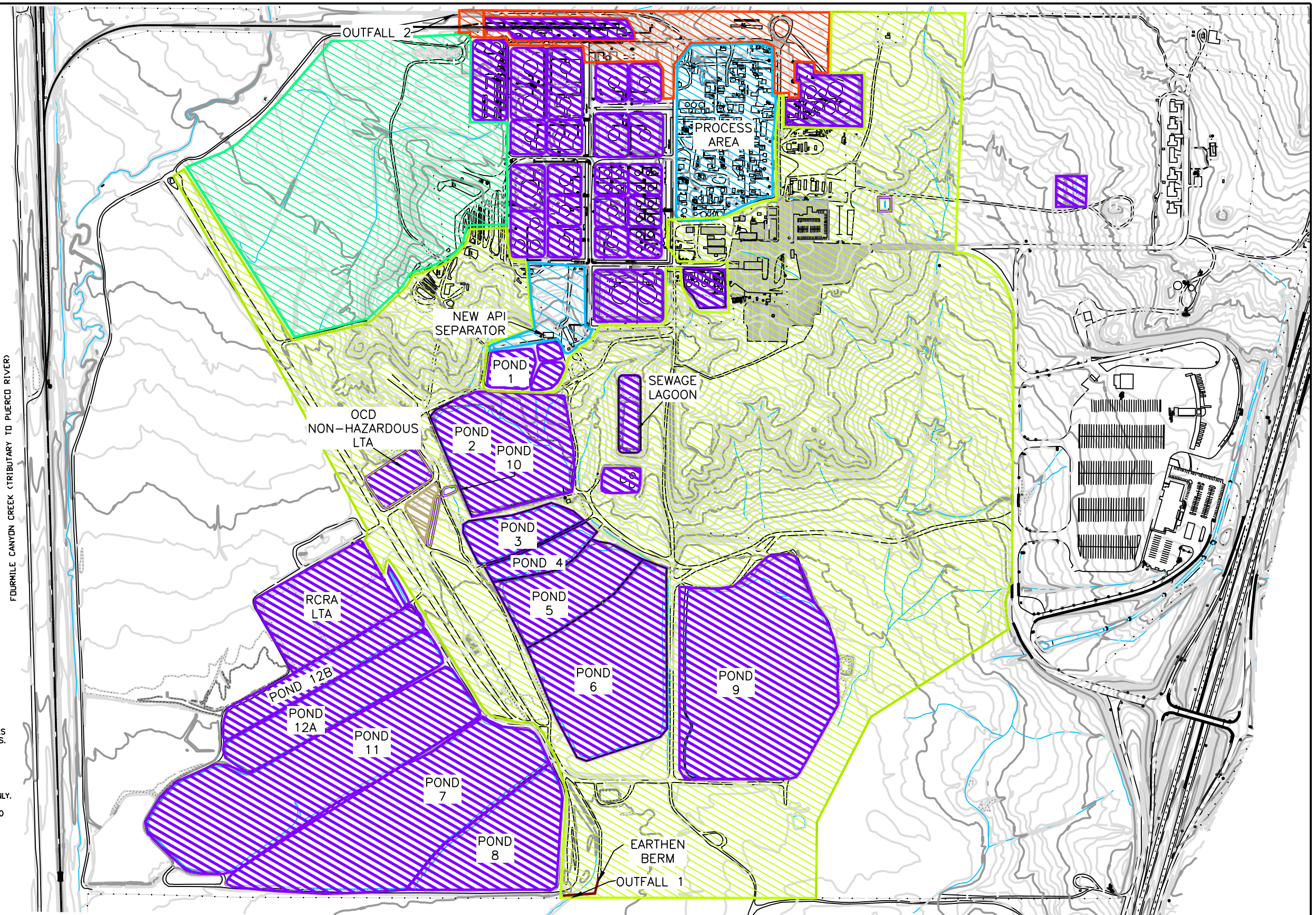
NEW FACILITY LOCATIONS AND DIMENSIONS ARE APPROXIMATE

"STOCK PILE" REFERS TO STORAGE YARDS FOR INERT METERIALS SUCH AS UNUSED PIPING, SCRAP METAL, AND WOODEN PALLETS.

TOTAL ACERAGE – 880 ACRES

ACRES THAT DRAIN TO OUTFALLS 1 & 2 – 385 ACRES.

NOTE: IMPERVIOUS AREAS ARE IDENTIFIED FOR DISCHARGING AREAS ONLY. IMPERVIOUS SURFACES WITHIN AREAS WHERE STORMWATER DOES NOT DISCHARGE HAVE NOT BEEN IDENTIFIED, CONSIDERING THESE AREAS DO NOT PRODUCE REGULATED STORMWATER DISCHARGES.



SCALE
300' 0 300' 600'
CONTOUR INTERVAL 2 FT.

Rev	Description	BY	Date
3	REVISED FOR 2008 MSGP		12/19/08
1	FINAL ISSUE		1/9/06
A	DRAFT ISSUE TO CLIENT		12/16/05

REVISIONS

Scale: 1"=600'
Designed by: LAL/JM
Drawn by: DB
Checked by: AMEC
Approved by:

Issued for: Western Refining

Issued by: amec

1405 West Auto Drive, Tempe, Arizona 85284
(480) 940-2320 (480) 785-0970 fax

Title: STORMWATER CATCH BASINS GALLUP REFINERY

2 REVISION

Project: SWPPP GALLUP REFINERY
Project no.: 0811505023
FIGURE 8
Location: GALLUP, NEW MEXICO
Date: 12/19/08
2 SHEET 2 OF 12