GW - 032

PERMITS, RENEWALS, & MODS

4/05/2011

THE SANTA FE
NEW MEXICAN
Founded 1849

NM EMNRD OIL CONSERV
1220 S ST FRANCIS DR
Leonard Lowe
SANTA FE NM 87505

ALTERNATE ACCOUNT: 56689
AD NUMBER: 00354886 ACCOUNT: 00002212
LEGAL NO: P.O. #: 52100-00000260

235 LINES 1 TIME(S)	239.95
AFFIDAVIT:	0.00
TAX:	19.65
TOTAL:	259.60

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, V. Wright, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # a copy of which is hereto attached was published in said newspaper 1 day(s) between 09/06/2011 and 09/06/2011 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 6th day of September, 2011 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/_____
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 6th day of September, 2011

Notary _____

Commission Expires:_____

NOTICE OF PUBLICATION STATE O

Customer #00002212 NM EMNRD OIL CONSERVATION DIV

Classified Liner #00354886

Ad Entry | Ad Detail | Adjustments | Payment | History | Pricing Detail | Co-op

Ad

Sort: NOTICE OF PUBLICATION STATE O

Subclass: None

Account: 00002212 Account #00002212

Notes: 8.30.11 via email Carl.vw
legal # 92424

Ad Type: LEGL

Set Aside:

Size

Columns: 1.00

Inches: 26.04

Lines: 235

Words: 699

Mod Size:

Billing

UD	Billed
Total:	229.95
Adj:	$10.00
Tax:	$19.65
Net:	$259.60
Prepaid:	$0.00
Due:	$259.60
Inv chg:	*0.00*

Schedule

Pub: 01

Start: 09/06/2011

Stop: 09/06/2011

Runs: 1

Rate: legg

Cost: 229.95

TFN UD

Pub/Zone	Start	Stop	Runs	Rate	Cost
01	9/6/11	9/6/11	1	legg	229.95

01 The New Mexican
September 2011

S	M	T	W	T	F	S
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1

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NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC); the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-032) Western Refining Southwest, Inc.- Gallup Refinery, Mark B. Turri, General Manager, Interstate I-40, Exit 39, Jamestown, New Mexico 87347, has submitted a renewal application for the Gallup Refinery located in Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, about 17 miles east of Gallup, New Mexico just north of I-40. The refinery treats wastewater and discharges effluent into a series of surface evaporation ponds. Sanitary effluent from the nearby truck stop and refinery are properly treated by the waste water treatment system at the facility. There is currently ground water and vadose zone contamination present with remediation or abatement and monitoring in progress. Consequently, there is an ongoing discharge occurring to ground water from vadose zone contamination at the facility. Some oilfield wastes (petroleum contaminated soils) are being treated on-site in a land-treatment area or landfarm. All other wastes generated will be temporarily stored in tanks or containers and shipped off site for disposal or recycling at an OCD permitted and/or approved facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of about 50 feet below the ground surface with a total dissolved solids concentration of approximately 1,700 mg/L. The discharge permit

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The NMOCD has determined that the applications listed above are administratively complete and has prepared draft permits. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.
Para obtener más información sobre esta solicitud en espan_ol, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th
day of August 2011.

STATE OF
NEW MEXICO
OIL CONSERVATION
DIVISION

Jami Bailey, Director
Legal # 92424
Pub. Sept. 6, 2011

THE SANTA FE

NEW MEXICAN

Founded 1849

NM EMNRD OIL CONSERV
1220 S ST FRANCIS DR
Leonard Lowe
SANTA FE NM 87505

ALTERNATE ACCOUNT: 56689
AD NUMBER: 00354886 ACCOUNT: 00002212
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RECEIVED 2011 NOV 14 P 12:53

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COUNTY OF SANTA FE

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/S/ V Wright
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 6th day of September, 2011

Notary Mary Margaret Vigil-Weideman

Commission Expires: 11-13-2012

OFFICIAL SEAL
Mary Margaret Vigil-Weideman
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 11-13-12

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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Para obtener más Información sobre esta sollcitud en espan_ol, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energla, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th day of August 2011.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

Jaml Bailey, Director
Legal # 92424
Pub. Sept. 6, 2011

Advertising Invoice

Gallup Independent
P.O Box 1210
Gallup, NM 87305

Phone: (505) 863-6811
Fax: (505) 863-0039
URL:

LEGALS
NEW MEXICO ENERGY, MINERALS &
NATURAL RESOURCE DEP
1220 S. ST. FRANCIS DRIVE
SANTA FE NM 87505

Cust #: 03101725
Phone: (505)476-3490
Date: 09/12/2011
Due Date: 10/07/2011
Invoice #: 31945
Salesperson: **Ad Taker:** 004

Ad#	Start	Stop	Publication	Description	Amount
00017668	09/10/2011	09/10/2011	01 The Independent	LE # 12864	122.22
00017668				Tax	9.86

ok to pay
EDC
10/18/2011

FILE COPY

Please return a copy with payment **Total Due** 132.08

Affidavit of Publication

STATE OF NEW MEXICO)
) SS
COUNTY OF MCKINLEY)

REBECCA PAQUIN being duly sworn upon oath, deposes and says:

As LEGAL CLERK of The Independent, a newspaper published in and having a general circulation in McKinley County, New Mexico and in the City of Gallup, New Mexico and having a general circulation in Cibola County, New Mexico and in the City of Grants, New Mexico and having a general circulation in Apache County, Arizona and in the City of St. Johns and in the City of Window Rock, Arizona therein: that this affiant makes the affidavit based upon personal knowledge of the facts herein sworn to. That the publication, a copy of which is hereto attached was published in said newspaper during the period time of publication and said notice was published in the newspaper proper, and not in a supplement thereof, for One Time, the first publication being on the _____ day of _____, 2011, the second publication being on the _____ day of _____, 2011, the third publication being on the _____ day of _____, 2010,

and the last publication being on the 10th day of September, 2011. That such newspaper, in which such notice or advertisement was published, is now and has been at all times material hereto, duly qualified for such purpose, and to publish legal notices and advertisements within the meaning of Chapter 12, of the statutes of the State of New Mexico, 1941 compilation.

Rebecca Paquin
Affiant.

Sworn and Subscribed to before me this 14th day of September, A.D., 2011.

Crystal Chavez
Notary Public

My commission expires:
June 25th 2014

FILE COPY

New Mexico

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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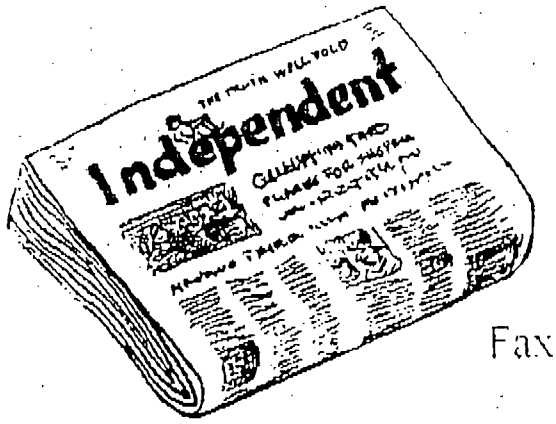
GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th day of August 2011.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION

Jami Bailey, Director

SEAL

Legal # 12864 Published in The Independent September 10, 2011.



INDEPENDENT

500 North Ninth • P.O. Box 1210
Gallup, New Mexico 87301

Fax: (505) 722-5750 • Phone: (505) 863-6811

Attn: Kimberly Fax: (505) 476 3462

From: Rebecca P

Date: 10/17/11

Number of Pages Including Cover: 3

Please Reply ☐ For Review ☐ Other ☒ Urgent ☒ Please Comment ☐

Message:

Thanks Girl

Rebecca P

Western Refining
GALLUP

WNR LISTED NYSE

RECEIVED OCD

2011 SEP 23 P 10: 19

Certified Mail #7010 0290 0002 7735 3783

September 22, 2011

Mr. Carl Chavez
Oil Conservation Division
Environmental Bureau
1220 S. St. Francis Dr.
Santa Fe, NM 87505

Re: Public Notice Requirements
Western Refining Southwest Inc. –Gallup Refinery- GW-32

Dear Mr. Chavez:

In accordance with 20.6.2.3108 C. (2) & D. please find enclosed a copy of the Gallup Independent dated September 14, 2011 with display ad in English and Spanish for the Gallup Refinery Discharge permit renewal.

Please contact me at (505) 722-0217 if you have any comments or questions regarding this proof of publication.

Sincerely,

Ed Riege
Environmental Manager

C: Mark B. Turri

...gers tax, Page 2 Lady Scouts Victorious, Sports Page 1

THE TRUTH WELL TOLD

Independent

Wednesday
September 14, 2011
Number 245 Volume 124

Gallup Police call log

Aug. 14

A.M.

12:05	Property damage, 1601 W. 66
12:21	Domestic, 3404 W. 66
12:30	Accident, I-40 WB Ex. 20
1:10	Domestic, 2800 E. Aztec
1:53	Assault, 1119 E. 66
2:28	Suspicious event, 207 S. Strong
2:33	Accident, 710 S. 8th
2:44	Domestic, 401 E. Hill
3:53	Seizures, 350 S. Basilio
4:45	Domestic, N.M. 602
11:15	Disorderly, 1119 E. 66

P.M.

2:11	Vehicle theft, 311 Black Diamond Can.
4:08	Property damage, 137 N.M. 566

Man arrested with stolen coffee maker, stuffed

By Bill Donovan
Independent correspondent

GALLUP — The case against Joel Hernandez for allegedly terrorizing area residents around Lincoln Elementary School on Sunday all hinged on a coffee maker.

It began with Gumevisindo Garcia, who lives on South Fourth Street, reporting to Officer Rosanne Morrissette that someone threw a brick through his kitchen window and stole a coffee maker valued at $50.

The window itself, Garcia said, would probably

He could not say at the time whether anything else was taken and the matter ended there.

Two hours later, another police officer, Cindy Romancito, said she was looking into a report of a man who was throwing rocks and breaking windows in the area of Mesa Avenue and Lincoln Elementary School.

This same man was under investigation for an altercation near Fifth and Hill about the same time when Clemaco Ramirez reported that a man threw a coffee maker at him.

The coffee maker missed him but hit the car behind him.

the area.

Romancito said the man was
a stuffed animal with an Elvis P

Hernandez was later apprehen
arrest.

Officers took the coffee mak
to the Garcia residence where
both as being taken from his hor

He told officers that the stuffe
his late wife and it meant a lot t
returned when the case was ov
was so damaged that he didn't w

Hernandez was charged with

Western Refining

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Western Refining

AVISO DE PUBLICACIÓN

Se hace saber que en virtud del Agua de Nuevo México de control de calidad Reglamentos (20.6.2.3108 NMAC), la solicitud de permiso de descarga siguiente (s) ha sido presentado al Director de la División de Conservación de Petróleo de Nuevo México ("NMOCD"), 1220 S . Unidad de San Francisco, Santa Fe, Nuevo México 87505, Teléfono (505) 476 a 3,440:

(GW-032) Refinación occidental del Suroeste, Inc. - Refinería de Gallup, Mark B. Turri, gerente general de la carretera interestatal I-40, salida 39, Jamestown, Nuevo México 87347, ha presentado una solicitud de renovación de la Refinería de Gallup encuentran en la Sección 28 , municipio de 15 Norte, Rango 15 Oeste, NMPM, el Condado de McKinley, a unos 17 kilómetros al este de Gallup, Nuevo México, justo al norte de I-40. La refinería trata las aguas residuales y descargas de efluentes en una serie de estanques de evaporación de la superficie. El volumen de las aguas residuales se espera un promedio de hasta 400 gpm y la calidad no tendrá las características de RCRA. Efluente de la parada de camiones cerca de la refinería y sanitarios son tratados adecuadamente por el sistema de tratamiento de aguas residuales en las instalaciones. En la actualidad existe agua subterránea presente la contaminación y la remediación o mitigación con el monitoreo en curso. En consecuencia, no es una descarga que está cometiendo con el agua subterránea en la instalación. Algunos desechos petroleros (suelos contaminados con petróleo) están siendo tratados en el lugar en un área de tratamiento o landfarm. Todos los demás desechos generados se almacenan temporalmente en tanques o contenedores y se envían fuera de sitio para disposición o reciclaje en un centro de OCD permitido y / o aprobados. Las aguas subterráneas afectadas por la descarga, es decir, derrame, fuga o liberación accidental (s), está a una profundidad de aproximadamente 50 metros por debajo de la superficie del suelo con una concentración de sólidos disueltos totales de aproximadamente 1.700 mg / L. El permiso de descarga de las direcciones de la descarga de agua subterránea bajo la Norma de Calidad de Agua Control de la Comisión (es decir, NMAC 20.6.2 y 20.6.4 NMAC). Todos los demás sistemas de instalación relacionados con el TOC (es decir, lagunas de evaporación, landfarms, por debajo del grado depósitos, pozos, etc) que contienen los productos petroleros y / o los residuos se maneja adecuadamente, almacenados y desechados, incluyendo como derrames, fugas y otros descargas accidentales a la superficie, se permitirá y gestionado bajo de aceite separado y los reglamentos de gas con el fin de proteger a los dulces superficiales y / o aguas subterráneas.

El NMOCD ha determinado que las aplicaciones enumeradas anteriormente son administrativamente completa y ha elaborado proyectos de permisos. El NMOCD aceptará comentarios y declaraciones de interés respecto a esta solicitud y va a crear una lista de correo específicos de las instalaciones para las personas que deseen recibir notificaciones en el futuro. Las personas interesadas en obtener más información, enviar comentarios o solicitar a estar en una instalación específica de la lista de correo para avisos futuros pueden comunicarse con el Jefe de la Oficina Ambiental de la División de Conservación de Petróleo en la dirección indicada más arriba.

Chavez, Carl J, EMNRD

To: 'Riege, Ed'
Cc: Turri, Mark
Subject: RE: Gallup Refinery DP (GW-032) and Public Notice
Attachments: PN Flow Chart.20.6.2renewal.pdf; Renewal WQCC Notice Regs.pdf

Ed:

Somehow the dates were accidently switched around apparently by my Supervisor when he made some amendments to my final proposed documents before posting them on the OCD Website.

Consequently, please regard September 1, 2011 as the official "Administrative Complete" approval date by the OCD in order to proceed with your public notice process for discharge permit renewal under 20.6.2.3108 NMAC. I have attached a flow chart and the regulations on how to proceed with this public notice process.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Friday, September 09, 2011 3:07 PM
To: Chavez, Carl J, EMNRD
Subject: RE: Gallup Refinery DP (GW-032) and Public Notice

Carl, I noticed the admin complete letter we recently received was dated July 30th. Should this have been dated August 30th?

Ed

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Tuesday, August 23, 2011 3:55 PM
To: Hains, Allen; Riege, Ed
Subject: FW: Gallup Refinery DP (GW-032) and Public Notice

Gentlemen:

This is how the discharge permit is shaping up. Any final comments please advise before COB Friday as I am planning to proceed with Admin. Completeness next week. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Chavez, Carl J, EMNRD
Sent: Thursday, August 18, 2011 2:50 PM
To: VanHorn, Kristen, NMENV
Cc: Cobrain, Dave, NMENV; Powell, Brandon, EMNRD
Subject: Gallup Refinery DP (GW-032) and Public Notice

Kristen:

Please find attached an updated discharge permit for your consideration.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
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http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Notice Requirements For Discharge Permit Renewals

20.6.2.3108 PUBLIC NOTICE AND PARTICIPATION:

A. Within 15 days of receipt of an application for a discharge permit, modification or renewal, the department shall review the application for administrative completeness. To be deemed administratively complete, an application shall provide all of the information required by Paragraphs (1) through (5) of Subsection F of 20.6.2.3108 NMAC and shall indicate, for department approval, the proposed locations and newspaper for providing notice required by Paragraphs (1) and (4) of Subsection B or Paragraph (2) of Subsection C of 20.6.2.3108 NMAC. The department shall notify the applicant in writing when the application is deemed administratively complete. If the department determines that the application is not administratively complete, the department shall notify the applicant of the deficiencies in writing within 15 days of receipt of the application and state what additional information is necessary.

B. Within 30 days of the department deeming an application for discharge permit or discharge permit modification administratively complete, the applicant shall provide notice, in accordance with the requirements of Subsection F of 20.6.2.3108 NMAC, to the general public in the locale of the proposed discharge in a form provided by the department by each of the methods listed below:

(1) for each 640 contiguous acres or less of a discharge site, prominently posting a synopsis of the public notice at least 2 feet by 3 feet in size, in English and in Spanish, at a place conspicuous to the public, approved by the department, at or near the proposed facility for 30 days; one additional notice, in a form approved by and may be provided by the department, shall be posted at a place located off the discharge site, at a place conspicuous to the public and approved by the department; the department may require a second posting location for more than 640 contiguous acres or when the discharge site is not located on contiguous properties;

(2) providing written notice of the discharge by mail, to owners of record of all properties within a 1/3 mile distance from the boundary of the property where the discharge site is located; if there are no properties other than properties owned by the discharger within a 1/3 mile distance from the boundary of property where the discharge site is located, the applicant shall provide notice to owners of record of the next nearest adjacent properties not owned by the discharger;

(3) providing notice by certified mail, return receipt requested, to the owner of the discharge site if the applicant is not the owner; and

(4) publishing a synopsis of the notice in English and in Spanish, in a display ad at least three inches by four inches not in the classified or legal advertisements section, in a newspaper of general circulation in the location of the proposed discharge.

C. Within 30 days of the department deeming an application for discharge permit renewal administratively complete, the applicant shall provide notice, in accordance with the requirements of Subsection F of 20.6.2.3108 NMAC, to the general public in the locale of the proposed discharge in a form provided by the department by each of the methods listed below:

(1) providing notice by certified mail to the owner of the discharge site if the applicant is not the owner; and

(2) publishing a synopsis of the notice, in English and in Spanish, in a display ad at least two inches by three inches, not in the classified or legal advertisements section, in a newspaper of general circulation in the location of the discharge.

D. Within 15 days of completion of the public notice requirements in Subsections B or C of 20.6.2.3108 NMAC, the applicant shall submit to the department proof of notice, including an affidavit of mailing(s) and the list of property owner(s), proof of publication, and an affidavit of posting, as appropriate.

E. Within 30 days of determining an application for a discharge permit, modification or renewal is administratively complete, the department shall post a notice on its website and shall mail notice to any affected local, state, federal, tribal or pueblo governmental agency, political subdivisions, ditch associations and land grants, as identified by the department. The department shall also mail or e-mail notice to those persons on a general and facility-specific list maintained by the department who have requested notice of discharge permit applications. The notice shall include the information listed in Subsection F of 20.6.2.3108 NMAC.

F. The notice provided under Subsection B, C and E of 20.6.2.3108 NMAC shall include:

(1) the name and address of the proposed discharger;

(2) the location of the discharge, including a street address, if available, and sufficient information to locate the facility with respect to surrounding landmarks;

(3) a brief description of the activities that produce the discharge described in the application;

(4) a brief description of the expected quality and volume of the discharge;

(5) the depth to and total dissolved solids concentration of the ground water most likely to be affected by the discharge;

(6) the address and phone number within the department by which interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices; and

(7) a statement that the department will accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices.

G. All persons who submit comments or statements of interest to the department or previously participated in a public hearing and who provide a mail or e-mail address shall be placed on a facility-specific mailing list and the department shall send those persons the public notice issued pursuant to Subsection H of 20.6.2.3108 NMAC, and notice of any public meeting or hearing scheduled on the application. All persons who contact the department to inquire about a specific facility shall be informed of the opportunity to be placed on the facility-specific mailing list.

H. Within 60 days after the department makes its administrative completeness determination and all required technical information is available, the department shall make available a proposed approval or disapproval of the application for a discharge permit, modification or renewal, including conditions for approval proposed by the department or the reasons for disapproval. The department shall mail by certified mail a copy of the proposed approval or disapproval to the applicant, and shall provide notice of the proposed approval or disapproval of the application for a discharge permit, modification or renewal by:

(1) posting on the department's website;

(2) publishing notice in a newspaper of general circulation in this state and a newspaper of general circulation in the location of the facility;

(3) mailing or e-mailing to those persons on a facility-specific mailing list;

(4) mailing to any affected local, state, or federal governmental agency, ditch associations and land grants, as identified by the department; and

(5) mailing to the governor, chairperson, or president of each Indian tribe, pueblo or nation within the state of New Mexico, as identified by the department.

I. The public notice issued under Subsection H shall include the information in Subsection F of 20.6.2.3108 NMAC and the following information:

(1) a brief description of the procedures to be followed by the secretary in making a final determination;

(2) a statement of the comment period and description of the procedures for a person to request a hearing on the application; and

(3) the address and telephone number at which interested persons may obtain a copy of the proposed approval or disapproval of an application for a discharge permit, modification or renewal.

J. In the event that the proposed approval or disapproval of an application for a discharge permit, modification or renewal is available for review within 30 days of deeming the application administratively complete, the department may combine the public notice procedures of Subsections E and H of 20.6.2.3108 NMAC.

K. Following the public notice of the proposed approval or disapproval of an application for a discharge permit, modification or renewal, and prior to a final decision by the secretary, there shall be a period of at least 30 days during which written comments may be submitted to the department and/or a public hearing may be requested in writing. The 30-day comment period shall begin on the date of publication of notice in the newspaper. All comments will be considered by the department. Requests for a hearing shall be in writing and shall set forth the reasons why a hearing should be held. A public hearing shall be held if the secretary determines there is substantial public interest. The department shall notify the applicant and any person requesting a hearing of the decision whether to hold a hearing and the reasons therefore in writing.

L. If a hearing is held, pursuant to Subsection K of 20.6.2.3108 NMAC, notice of the hearing shall be given by the department at least 30 days prior to the hearing in accordance with Subsection H of 20.6.2.3108 NMAC. The notice shall include the information identified in Subsection F of 20.6.2.3108 NMAC in addition to the time and place of the hearing and a brief description of the hearing procedures. The hearing shall be held pursuant to 20.6.2.3110 NMAC.

20.6.2 NMAC 17

[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3108 NMAC - Rn, 20 NMAC 6.2.III.3108, 1-15-01; A, 12-1-01; A, 9-15-02; A, 7-16-06]

WQCC PUBLIC NOTICE AND PERMITTING FLOWCHART:

20.6.2.3108 – Applications for discharge permits renewals

Applicant flow path

OCD flow path

Process Begins

Applicant submits application, proposal for notice, and filing $fee to OCD

Within 15 days of submittal

Returned to applicant

Administratively incomplete

Admin. Compl. Review completed

OCD notifies applicant of admin compl determination

Administratively complete

Within 30 Days of deeming an application complete

Applicant shall provide notice in accordance of Subsection F of 20.6.2.3108 NMAC.

Applicant provides notice by certified mail to the owner of the discharge site, if not the owner

Applicant must publish a synopsis of notice in English and Spanish display ad at least 2 x 3 inches not in the classified or legal section, in a newspaper of general circulation in the location of the proposed discharge

Within 15 days after completion of notice requirements

Applicant submits proof of notice (affidavit of mailings and list of property owners, proof of publication, an affidavit of posting) to OCD

Inadequate notice

OCD will require additional notice

Adequate notice

OCD Notice Process

30 days

Public Notice/ Technical Review (OCD may combine this process)

OCD posts notice on web site and mail notice to any affected local, state, federal, tribal or pueblo governmental agency, political subdivisions, ditch associations, and land grants, as identified by the department

OCD mail or email notice to those persons of record who have requested notice

60 days

Provide notice in accordance with Subsection F of 20.6.2.3108 NMAC

OCD shall make available a proposed approval or disapproval of the application, with conditions or reasons, on OCD's web site. Publish notice in a newspaper of general circulation in the state and location of the facility. Provide notice by certified mail to the owner of the discharge site. Mail or email notice to those persons of record who have requested notice, and mails notice to any affected governmental agency, ditch associations, and land grants. Mail notice to the governor, chairperson, or president of each Indian tribe, pueblo, or nation within the State of New Mexico.

Hold open 30 days for public comment. The 30 day period shall begin on the date of publication of the notice in the newspaper.

Request for Hearing?

Yes

No

Provide notice of hearing 30 days prior to hearing in accordance with Subsections F and H of 20.6.2.3108

Hearing shall be held pursuant to 20.6.2.3110 NMAC

Approval

30 days

OCD provides copy of approved permit to permittee and interested parties

Applicant required to sign-off on permit and submit Fees

Not an official OCD document-for guidance only

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 30, 2011 10:38 AM
To: Turri, Mark
Cc: 'Riege, Ed'
Subject: Western Refining Southwest, Inc.- Gallup Refinery (GW-032) Discharge Permit "Administatively Complete" Determination

Mr. Turri:

Please find attached the New Mexico Oil Conservation Division (OCD) above subject determination.

The OCD will be posting the attached, draft discharge permit and public notice on its website at http://www.emnrd.state.nm.us/ocd/ENV-DraftPublicEtc.htm before close of business today. In addition, the OCD is working to post its public notice in the Santa Fe New Mexican and Gallup Independent Newspapers this week.

Please proceed to issue public notice in accordance with WQCC Regulations 20.6.2.3108 NMAC. Let me know if you need the OCD flow chart on the public notice process, etc.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 30, 2011 1:18 PM
To: 'Legals'
Cc: Sanchez, Kimberly V, EMNRD
Subject: FW: Public Notice Request to Gallup Independent and Santa Fe New Mexican Newspapapers
Attachments: proofad #354886.pdf; receipt.pdf

Ms. Wright:

I have submitted the invoice to our accounting personnel. If they have any questions, they will contact you.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Legals [mailto:legals@sfnewmexican.com]
Sent: Tuesday, August 30, 2011 11:55 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Public Notice Request to Gallup Independent and Santa Fe New Mexican Newspapapers

Thank you.
Attached notice will run Sept. 6th.

Thank You,
Valerie Wright
Legal Clerk
The New Mexican
(505)995.3818

On 8/30/11 11:50 AM, "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us> wrote:

Ok. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau

1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us <mailto:CarlJ.Chavez@state.nm.us>
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Legals [mailto:legals@sfnewmexican.com]
Sent: Tuesday, August 30, 2011 11:49 AM
To: Chavez, Carl J, EMNRD
Subject: Re: Public Notice Request to Gallup Independent and Santa Fe New Mexican Newspapapers
Importance: High

Carl:
Legal notices run during the week only.
I am currently working on Sept. 6th, 2011
I will email you the proof and receipt for this date.

Thank You,
Valerie Wright
Legal Clerk
The New Mexican
(505)995.3818

On 8/30/11 11:37 AM, "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us> wrote:

Dear Sir or Madam:

Please publish (**for one day [Sunday] only**) the attached Public Notice in the classified notice section of your respective newspapers.

For billing purposes, the New Mexico Oil Conservation Division billing information is as follows:

- Gallup Independent: PO# is 52100-0000025880 and Account # is ? (Fax Only), and

- Santa Fe New Mexican: PO# is 52100-0000026037 and Account # is 56689.

Please send me an affidavit of proof of publication for each notice that you process and contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490

Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us <mailto:CarlJ.Chavez@state.nm.us>
Website: http://www.emnrd.state.nm.us/ocd/ <http://www.emnrd.state.nm.us/ocd/> index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Advertising Receipt

The New Mexican
202 E. Marcy
P.O. Box 2048
Santa Fe, NM 87504-204
Phone: (505) 983-3303
Fax: (505) 820-1635

NM EMNRD OIL CONSERVATION DIV

1220 S ST FRANCIS DR
Leonard Lowe
SANTA FE , NM 87505

Alt #: 56689
Cust#: 00002212
Ad#: 00354886
Phone: (505)476-3492
Date: 08/30/2011

Ad taker: 38 **Salesperson:** 40 **Classification:** 6000

Sort Line	Start	Stop	Runs	Lines	Cost
NOTICE OF PUBLICATION STATE O	09/06/2011	09/06/2011	1	235	239.95

Ad Text:
NOTICE OF

Tax: 19.65
Net: 259.60
Prepaid: 0.00

Total Due 259.60

NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC); the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-032) Western Refining Southwest, Inc.- Gallup Refinery, Mark B. Turri, General Manager, Interstate I-40, Exit 39, Jamestown, New Mexico 87347, has submitted a renewal application for the Gallup Refinery located in Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, about 17 miles east of Gallup, New Mexico just north of I-40. The refinery treats wastewater and discharges effluent into a series of surface evaporation ponds. Sanitary effluent from the nearby truck stop and refinery are properly treated by the waste water treatment system at the facility. There is currently ground water and vadose zone contamination present with remediation or abatement and monitoring in progress. Consequently, there is an ongoing discharge occurring to ground water from vadose zone contamination at the facility. Some oilfield wastes (petroleum contaminated soils) are being treated on-site in a land-treatment area or landfarm. All other wastes generated will be temporarily stored in tanks or containers and shipped off site for disposal or recycling at an OCD permitted and/or approved facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of about 50 feet below the ground surface with a total dissolved solids concentration of approximately 1,700 mg/L. The discharge permit

addresses the discharge to ground water under the Water Quality Control Commission Regulations (i.e., 20.6.2 NMAC and 20.6.4 NMAC). All other OCD facility related systems (i.e., evaporation ponds, landfarms, below-grade tanks, sumps, etc.) containing oilfield products and/or wastes will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface, will be permitted and managed under separate oil and gas regulations in order to protect fresh surface and/or ground water.

The NMOCD has determined that the applications listed above are administratively complete and has prepared draft permits. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.
Para obtener más información sobre esta solicitud en espan_ol, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th
day of August 2011.

STATE OF
NEW MEXICO
OIL CONSERVATION
DIVISION

Jami Bailey, Director
Legal # 92424
Pub. Sept. 6, 2011

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 30, 2011 11:37 AM
To: 'legals@sfnewmexican.com'
Cc: Sanchez, Kimberly V, EMNRD
Subject: Public Notice Request to Gallup Independent and Santa Fe New Mexican Newspapapers
Attachments: GW-32 PN Final w Western 8-25-2011.doc

Dear Sir or Madam:

Please publish (**for one day [Sunday] only**) the attached Public Notice in the classified notice section of your respective newspapers.

For billing purposes, the New Mexico Oil Conservation Division billing information is as follows:

- Gallup Independent: PO# is 52100-0000025880 and Account # is ? (Fax Only), and
- Santa Fe New Mexican: PO# is 52100-0000026037 and Account # is 56689.

Please send me an affidavit of proof of publication for each notice that you process and contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
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http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 30, 2011 11:28 AM
To: Stevenson, Tod, DGF; Wunder, Matthew, DGF; 'Warren, Alvin, DIA'; 'ddapr@nmda.nmsu.edu'; 'Linda_Rundell@nm.blm.gov'; 'psisneros@nmag.gov'; 'r@rthicksconsult.com'; 'sricdon@earthlink.net'; 'nmparks@state.nm.us'; Dantonio, John, OSE; 'seligman@nmoga.org'; Fetner, William, NMENV; 'lazarus@glorietageo.com'; 'marissa.stone@state.nm.us'; 'ron.dutton@xcelenergy.com'; 'cgarcia@fs.fed.us'; Kieling, John, NMENV; 'bsg@garbhall.com'; Olson, Bill, NMENV; 'claudette.horn@pnm.com'; 'ekendrick@montand.com'; 'staff@ipanm.org'; 'dseawright@gmail.com'; 'jharris@rwdhc.com'; Bonham, Sherry, EMNRD; 'Dade.Randy@state.nm.us'; 'Dade.Randy@state.nm.us'; Gray, Darold, EMNRD; Perrin, Charlie, EMNRD; Powell, Brandon, EMNRD; Martin, Ed, EMNRD; 'lynnb@nmt.edu'; Gonzales, Elidio L, EMNRD
Cc: Stevenson, Tod, DGF; Wunder, Matthew, DGF; 'Warren, Alvin, DIA'; 'ddapr@nmda.nmsu.edu'; 'Linda_Rundell@nm.blm.gov'; 'psisneros@nmag.gov'; 'r@rthicksconsult.com'; 'sricdon@earthlink.net'; 'nmparks@state.nm.us'; Dantonio, John, OSE; 'lynnb@nmt.edu'; 'seligman@nmoga.org'; Fetner, William, NMENV; 'lazarus@glorietageo.com'; 'marissa.stone@state.nm.us'; 'ron.dutton@xcelenergy.com'; 'cgarcia@fs.fed.us'; Kieling, John, NMENV; 'bsg@garbhall.com'; 'claudette.horn@pnm.com'; 'ekendrick@montand.com'; 'jharris@rwdhc.com'; 'dseawright@gmail.com'; 'staff@ipanm.org'; Turri, Mark
Subject: New Mexico Oil Conservation Division Public Notice for Western Refining Southwest, Inc.- Gallup Refinery (GW-032) Discharge Permit Renewal

Dear Sir or Madam:

This e-mail message is to alert you about the above subject discharge permit renewal for the above subject facility and *public notice process under the Water Quality Control Commission (WQCC) Regulation § 20.6.2.3108 NMAC (Public Notice and Participation).*

The OCD will be posting the attached, draft discharge permit (GW-032) and public notice on its website at http://www.emnrd.state.nm.us/ocd/ENV-DraftPublicEtc.htm before close of business today. In addition, the OCD is working to post its public notice in the Santa Fe New Mexican and Gallup Independent Newspapers this week in the Sunday Newspaper.

Please contact me If you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC); the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-032) Western Refining Southwest, Inc.- Gallup Refinery, Mark B. Turri, General Manager, Interstate I-40, Exit 39, Jamestown, New Mexico 87347, has submitted a renewal application for the Gallup Refinery located in Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, about 17 miles east of Gallup, New Mexico just north of I-40. The refinery treats wastewater and discharges effluent into a series of surface evaporation ponds. Sanitary effluent from the nearby truck stop and refinery are properly treated by the waste water treatment system at the facility. There is currently ground water and vadose zone contamination present with remediation or abatement and monitoring in progress. Consequently, there is an ongoing discharge occurring to ground water from vadose zone contamination at the facility. Some oilfield wastes (petroleum contaminated soils) are being treated on-site in a land-treatment area or landfarm. All other wastes generated will be temporarily stored in tanks or containers and shipped off site for disposal or recycling at an OCD permitted and/or approved facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of about 50 feet below the ground surface with a total dissolved solids concentration of approximately 1,700 mg/L. The discharge permit addresses the discharge to ground water under the Water Quality Control Commission Regulations (i.e., 20.6.2 NMAC and 20.6.4 NMAC). All other OCD facility related systems (i.e., evaporation ponds, landfarms, below-grade tanks, sumps, etc.) containing oilfield products and/or wastes will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface, will be permitted and managed under separate oil and gas regulations in order to protect fresh surface and/or ground water.

The NMOCD has determined that the applications listed above are administratively complete and has prepared draft permits. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the

proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th day of August 2011.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

Jami Bailey, Director

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

JULY 30, 2011

Mr. Mark B. Turri
Refinery General Manager
Western Refining Southwest, Inc. - Gallup Refinery
Interstate I-40, Exit 39
Jamestown, New Mexico 87347

Re: Discharge Permit Renewal (GW-032) Gallup Refinery (Abatement of Ground Water and Vadose Zone Contamination) Section 28, UL: H, Township 15 North, Range 15 West, NMPM, McKinley County, New Mexico

Dear Mr. Turri:

The New Mexico Oil Conservation Division (NMOCD) has received Western Refining Southwest, Inc.'s request and initial fee, dated April 5, 2011, to renew GW-032 for the Western Refining Southwest, Inc.-Gallup Refinery located in Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, on I-40 just East of Gallup, New Mexico. The final submittal provided the required information in order to **deem the application "administratively" complete**.

Therefore, the New Mexico Water Quality Control Commission regulations (WQCC) notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to the NMOCD. NMOCD will provide public notice pursuant to the WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3490 or carlj.chavez@state.nm.us. On behalf of the staff of the NMOCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Carl J. Chavez
Environmental Engineer

CJC/cjc

xc: OCD District III Office, Aztec

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC); the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-032) Western Refining Southwest, Inc.- Gallup Refinery, Mark B. Turri, General Manager, Interstate I-40, Exit 39, Jamestown, New Mexico 87347, has submitted a renewal application for the Gallup Refinery located in Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, about 17 miles east of Gallup, New Mexico just north of I-40. The refinery treats wastewater and discharges effluent into a series of surface evaporation ponds. Sanitary effluent from the nearby truck stop and refinery are properly treated by the waste water treatment system at the facility. There is currently ground water and vadose zone contamination present with remediation or abatement and monitoring in progress. Consequently, there is an ongoing discharge occurring to ground water from vadose zone contamination at the facility. Some oilfield wastes (petroleum contaminated soils) are being treated on-site in a land-treatment area or landfarm. All other wastes generated will be temporarily stored in tanks or containers and shipped off site for disposal or recycling at an OCD permitted and/or approved facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of about 50 feet below the ground surface with a total dissolved solids concentration of approximately 1,700 mg/L. The discharge permit addresses the discharge to ground water under the Water Quality Control Commission Regulations (i.e., 20.6.2 NMAC and 20.6.4 NMAC). All other OCD facility related systems (i.e., evaporation ponds, landfarms, below-grade tanks, sumps, etc.) containing oilfield products and/or wastes will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface, will be permitted and managed under separate oil and gas regulations in order to protect fresh surface and/or ground water.

The NMOCD has determined that the applications listed above are administratively complete and has prepared draft permits. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th day of August 2011.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

Jami Bailey, Director

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

AUGUST 30, 2011

Mr. Mark B. Turri
Refinery General Manager
Western Refining Southwest, Inc. - Gallup Refinery
Interstate I-40, Exit 39
Jamestown, New Mexico 87347

RE: **DRAFT Discharge Permit Renewal (GW-032) Gallup Refinery (Abatement of Ground Water and Vadose Zone Contamination) Section 28, UL: H, Township 15 North, Range 15 West, NMPM, McKinley County, New Mexico**

Dear Mr. Turri:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby **approves** the discharge permit for the Western Refining Southwest- Gallup Refinery contingent upon the conditions specified in the enclosed "Attachment to the Discharge Permit". Enclosed are two copies of the conditions of approval. Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 45 days of receipt of this letter including permit fees.

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

The final permit should be issued in approximately 45 days. If you have any questions, please contact Carl Chavez of my staff at (505-476-3490) or E-mail: CarlJ.Chavez@statc.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Glenn von Gonten
Acting Environmental Bureau Chief

GvG/cc
Attachments-1

xc: OCD District III Office, Aztec

ATTACHMENT TO THE DISCHARGE PERMIT
WESTERN REFINING SOUTHWEST, INC. - GALLUP REFINERY (GW-032)
DISCHARGE PERMIT APPROVAL CONDITIONS

August 30, 2011

Please remit a check for $2,600.00 made payable to Water Quality Management Fund:

Water Quality Management Fund
C/o: Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505

1. GENERAL PROVISIONS:

A. PERMITTEE AND PERMITTED FACILITY: The Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department issues Discharge Permit GW-032 (Discharge Permit) to Western Refining Southwest, Inc. - Gallup Refinery (Owner/operator) located at Interstate I-40, Exit 39, Jamestown, New Mexico 87347 (Section 28, Township 15 North, Range 15 West, NMPM, McKinley County, about 18 mile east of Gallup, New Mexico just north of I-40) to operate the Refinery (Facility) with abatement of ground water and vadose zone contamination.

The Facility provides oil and gas refining. The Facility receives and processes up to 32,200 barrels per day of crude oil and other feed stocks. Ground water that may be affected by a spill, leak, or accidental discharge occurs at a depth of approximately 50 feet below ground surface, with a total dissolved solids concentration of approximately 1,700 mg/L.

B. SCOPE OF PERMIT: OCD has been granted authority to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to refineries by statute and by delegation from the Water Quality Control Commission pursuant to Section 74-6-4(E) NMSA 1978.

The Water Quality Act and the rules issued under that Act protect ground water and surface water of the State of New Mexico by providing that, unless otherwise allowed by rule, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless such discharge is pursuant to an approved discharge permit (see WQCC Regulations: 20.6.2.3104 NMAC and 20.6.2.3106 NMAC).

This Discharge Permit does not convey any property rights of any sort nor any exclusive privilege, and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The owner/operator shall operate in accordance with the Discharge Permit conditions to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream standard to be violated (see 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health,

(see 20.6.2.3109H(3) NMAC); and so that the numerical standards specified in 20.6.2.3103 NMAC are not exceeded.

The owner/operator shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the Water Quality Control Commission (WQCC) standards specified in 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams).

C. DISCHARGE PERMIT CONDITIONS: By signing this Discharge Permit, the owner/operator agrees to the specific provisions set out in this document, and the commitments made in the approved Discharge Permit Application and the attachments to that application, which are incorporated into the Discharge Permit by reference.

This Discharge Permit is a permit renewal, it replaces the permit being renewed. Replacement of a prior permit does not relieve the owner/operator of its responsibility to comply with the terms of that prior permit while that permit was in effect.

D. DEFINITIONS: Terms not specifically defined in this Discharge Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to the Act, as the context requires.

E. FILING FEES AND PERMIT FEES: Pursuant to 20.6.2.3114 NMAC, every facility that submits a discharge permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required $100.00 filing fee for this application. The flat fee for the abatement of Ground Water and Vadose Zone Contamination is $2,600.00. The Owner/operator shall submit this amount along with the signed Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** and <u>not</u> the Oil Conservation Division.

F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT: This Discharge Permit is effective when the Division's Environmental Bureau receives the signed Discharge Permit from the owner/operator and the $2,600.00 fee or until the permit is terminated. **This Discharge Permit will expire on August 1, 2016.** The Owner/operator shall submit an application for renewal no later than 120 calendar days before that expiration date, pursuant to 20.6.2.3106F NMAC. If an owner/operator submits a renewal application at least 120 calendar days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, then the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. Operating with an expired Discharge Permit may subject the owner/operator to civil and/or criminal penalties. See Section 74-6-10.1 NMSA 1978 and Section 74-6-10.2 NMSA 1978.

G. MODIFICATIONS: The owner/operator shall notify the Division's Environmental Bureau of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants (see 20.6.2.3107C NMAC). The Division's Environmental Bureau may require the owner/operator to submit a

permit modification pursuant to 20.6.2.3109E NMAC and may modify or terminate a permit pursuant to Section 74-6-5(M) through (N) NMSA 1978.

H. TRANSFER OF DISCHARGE PERMIT: Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of the Facility, the transferor shall notify the transferee in writing of the existence of the Discharge Permit, and shall deliver or send by certified mail to the Division's Environmental Bureau a copy of such written notification, together with a certification or other proof that such notification has been received by the transferee pursuant to 20.6.2.3111 NMAC. Upon receipt of such notification, the transferee shall inquire into all of the provisions and requirements contained in the Discharge Permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the Division's file or files concerning the Discharge Permit. Upon assuming either ownership or possession of the Facility the transferee shall have the same rights and responsibilities under the Discharge Permit as were applicable to the transferor (see 20.6.2.3111 NMAC).

Transfer of the ownership, control, or possession of the facility does not relieve the transferor of responsibility or liability for any act or omission which occurred while the transferor owned, controlled, or was in possession of the Facility (see 20.6.2.3111(E) NMAC).

I. CLOSURE PLAN AND FINANCIAL ASSURANCE: The owner/operator shall notify the Division's Environmental Bureau in writing when any operations of its Facility are to be discontinued for a period in excess of six months. Upon review of the owner/operator's notice, the Division's Environmental Bureau will determine whether to modify this permit, pursuant to 20.6.2.3107 NMAC and 20.6.2.3109E NMAC, to require the owner/operator to submit a closure plan and/or post-closure plan, including financial assurance.

J. COMPLIANCE AND ENFORCEMENT: If the owner/operator violates or is violating a condition of this Discharge Permit, the Division's Environmental Bureau may issue a compliance order requiring compliance immediately or within a specified time period, suspending or terminating this Discharge Permit, and/or assessing a civil penalty. See Section 74-6-10 NMSA 1978. The Division's Environmental Bureau may also commence a civil action in district court for appropriate relief, including injunctive relief. See Section 74-6-10(A)(2) NMSA 1978 and Section 74-6-11 NMSA 1978. The owner/operator may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge permit; making any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. See Section 74-6-10.2 NMSA 1978.

2. GENERAL FACILITY OPERATIONS:

A. OPERATIONAL MONITORING: The owner/operator shall comply with its approved monitoring programs pursuant 20.6.2.3107 NMAC.

1. **Ground Water Monitoring System:** The owner/operator shall monitor and remediation ground water in accordance with the Facility-Wide Ground Water Monitoring Plan (FWGWMP). The owner/operator shall monitor for all of the constituents listed in 20.6.2.3103 NMAC following the procedures specified in the FWGWMP.

2. **Effluent Monitoring System:** A wastewater treatment system operations report shall be completed by January 31, 2013 or within 11 months of system start-up (includes 3 month grace period after start-up) with the maximum and operational waste loading capacity and efficiency of the treatment system under variable flow rate conditions documented for system operations. Permanently installed flow meters shall be placed at all waste water treatment locations necessary to record flow rates through the treatment system. BOD, COD and Phenol monitoring of influent into the Sewage Treatment Pond 1 (STP-1) shall also take place.

a. The owner/operator shall monitor its waste water treatment system in accordance with its approved FWGWMP and/or as specified herein.

b. The owner/operator shall monitor and record flow rates at totalizing flow meters set at all influent lines on a weekly basis or as often as needed to measure and determine the monthly volumes of water discharged throughout the waste water treatment system to monitor and determine the operational and maximum treatment capacity of the system based on pollutant loading under variable flow rate conditions. The owner/operator shall submit monthly meter readings including units of measurement, calculations, and monthly discharge volumes in its Annual Report. The owner/operator shall ensure that the flow meters are fully operational or replaced to maintain accuracy at all times.

c. The owner/operator shall collect grab samples for BOD (Method 405.1), COD (Method 410.1) and Phenol (Method 8270) on a monthly or more frequent basis for the first 6 months after installation of the new treatment system of influent and effluent into and Sewage Treatment Pond 1 (STP-1). Grab samples for VOC, BOD, COD, Chlorides (300.1), DRO, GRO, MTBE, pH and Phenol shall be monitored monthly at Evaporation Pond 2 (EP-2) for 6 months (similar to the above) to assess the treatment efficiency to chemicals of concern of the waste water treatment system.

B. POST-CLOSURE MONITORING: The owner/operator shall comply with its approved post-closure monitoring program pursuant to 20.6.2.3107 NMAC (Continuation of monitoring after cessation of operations).

C. CONTINGENCY PLANS: The owner/operator shall implement its approved Contingency Plans to cope with failure of the discharge permit or system in accordance with Permit Condition 2.F.

D. CLOSURE PLAN: After completing abatement of all ground water and vadose contamination required under Permit Condition 2.G, the owner/operator shall perform the following closure measures:

1. Remove or plug all lines leading to and from the extraction wells and the injection wells so that a discharge can no longer occur.

2. Remove all remediation system components from the site, if applicable.

3. After receiving notification from the Division's Environmental Bureau that post-closure monitoring may cease, the Owner/operator shall plug and abandon the monitoring well(s).

E. RECORD KEEPING: The owner/operator shall maintain records of all inspections required by this Discharge Permit at its Facility office for a minimum of five years and shall make those records available for inspection by the Division's Environmental Bureau and/or New Mexico Environment Department.

F. RELEASE REPORTING: The owner/operator shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, and submittal of an OCD C-141 to report releases, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Owner/operator shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the owner/operator determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to the Division's Environmental Bureau.

1. Notification: As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, the owner/operator shall orally notify the Division's Environmental Bureau. The owner/operator shall provide the following:

- the name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner/operator of the facility;
- the name and location of the facility;
- the date, time, location, and duration of the discharge;
- the source and cause of discharge;
- a description of the discharge, including its chemical composition;
- the estimated volume of the discharge; and
- any corrective actions taken to mitigate immediate damage from the discharge.

2. Written Notification: Within one week after the owner/operator has discovered a discharge, the owner/operator shall send written notification (may use a C-141 form with attachments) to the Division's Environmental Bureau verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

G. ABATEMENT PLAN: Pursuant to 20.6.2.4105A(6) NMAC, an owner/operator is exempt from the requirement to obtain and implement an Abatement Plan, as required in 20.6.2.4104 NMAC. However, an owner/operator's Discharge Permit must address abatement of contaminated ground water and be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsections C and E of Section 20.6.2.4106, Sections 20.6.2.4107 and 20.6.2.4112 NMAC.

1. **Purpose of Abatement Plan:** The owner/operator shall abate polluted ground water so as to either remediate or protect the ground water for use as domestic and agricultural water supply.

2. **Abatement Standards and Requirements:** The owner/operator shall abate the vadose zone so that water contaminants in the vadose zone shall not contaminate ground water or surface water through leaching, percolation or as the water table elevation fluctuates. The owner/operator, where the Total Dissolved Solids concentration is 10,000 mg/L or less, shall abate contaminated ground water so that toxic pollutant(s), as defined in 20.6.2.7(WW) NMAC, shall not be present and so that the standards of 20.6.2.3103 NMAC shall be met.

3. **Stage 1 Abatement Plan:** The owner/operator shall continue to implement its approved Stage 1 abatement monitoring under the Facility-Wide Ground Water Monitoring Plan (FWGWMP). Pursuant to 20.6.2.4106C NMAC, the purpose of a Stage 1 Abatement Plan is to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option.

4. **Stage 2 Abatement Plan:** The owner/operator shall to implement its approved Stage 2 abatement. OCD will allow the owner/operator to monitor pollution under its FWGWMP for good cause. Pursuant to 20.6.2.4106E NMAC, the purpose of the Stage 2 Abatement Plan is for the owner/operator to select and design, if necessary, an abatement option that, when implemented, will result in attainment of the abatement standards and requirements set forth in Section 20.6.2.4103 NMAC, including post-closure maintenance activities.

5. **Completion and Termination:** Pursuant to 20.6.2.4112 NMAC, abatement shall be considered complete when the standards and requirements specified in 20.6.2.4103 NMAC are met. At that time, the owner/operator shall submit an abatement completion report, documenting compliance with the standards and requirements set forth in 20.6.2.4103 NMAC and this Discharge Permit, to Division's Environmental Bureau for approval. The abatement completion report also shall propose any changes to long term monitoring and site maintenance activities, if needed, to be performed after termination of the abatement plan.

H. OTHER REQUIREMENTS:

1. **Inspection and Entry:** Pursuant to 20.6.2.4107(A) NMAC, the owner/operator shall allow the Division's Environmental Bureau with presentation of proper credentials to:

- enter the facility at reasonable times;
- inspect and copy records required by this discharge permit;
- inspect any treatment units or systems, monitoring or abatement systems, and analytical equipment;
- sample or witness owner/operator sampling of any wastes, contaminated vadose zone, ground water, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;

- use the owner/operator's monitoring systems and wells in order to collect environmental samples; and
- gain access to off-site property not owned or controlled by the owner/operator, but accessible to the Owner/operator through a third-party access agreement, provided that it is allowed by the agreement.

2. **Advance Notice:** Pursuant to 20.6.2.4107(B) NMAC, the owner/operator shall provide the Division's Environmental Bureau with at least four (4) working days advance notice of any environmental sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or destruction at the facility site.

3. **Hydrostatic Testing:** Pursuant to 20.6.2.3104 NMAC, no effluent or leachate shall discharge or be allowed to move directly or indirectly into ground water unless a discharge permit is issued by the OCD. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit.

4. **Plugging and Abandonment:** Pursuant to 20.6.2.4107C NMAC, the owner/operator shall propose to plug and abandon a monitor well by certified mail to the Division's Environmental Bureau for approval, unless such approval is required from the State Engineer. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from the Division's Environmental Bureau, unless written approval or disapproval is not received by the owner/operator within thirty (30) days of the date of receipt of the proposal.

5. **Underground Process/Wastewater Lines:** The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation and as a "Modification" request under the permit.

6. **Housekeeping:** The owner/operator shall inspect all systems designed for spill collection/ prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and be made available for OCD upon request or during an inspection.

7. **OCD Inspections:** The OCD may place additional requirements on the facility and modify the permit conditions as needed based on OCD inspections.

8. **Sanitary Treatment Pond No. 1 (STP-1):** Shall be double-lined with aeration and leak detection system. Also, an oil trap or other approved device shall be installed to prevent oil flow into STP-1. Individual aerators (atomizers) in the system shall be oriented so that no direct spray or windblown draft will leave the confines of the pond. During windy conditions, the system will not be operated in a manner that will allow spray or salt precipitates to drift outside the confines of the pond. Aerator(s) failure in the pond lasting

more than 24 hours, shall require notification to the NMED and OCD within 24 hours, shall require notification to the NMED and OCD within 24 hours of having knowledge o system failure.

STP-1 shall include a properly designed, constructed, and operated pond to contain, remove, and aggressively treat sanitary waste and refinery waste water treatment system (WWTS) effluent in a manner that will prevent untreated waste from entering the evaporation pond and protect fresh water, public health, safety and the environment for the foreseeable future.

STP-1 influent will be comprised of WWTS effluent and sanitary waste water from the refinery and Pilot Travel Center. Its primary purpose is to aggressively treat sanitary effluent through aeration. In addition to providing enhanced biological treatment of sanitary water, the aeration system will help remediate any residual organic constituents from the refinery's WWTS. *Note: Under no circumstance shall any refinery process water be discharged into STP-1 unless it has been treated by the refinery WWTS.*

9. Temporary Landfarm (NE Landfarm): The temporary landfarm or land treatment area shall be closed by approval of the OCD on or before December 31, 2011.

10. Storm Water: The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate contact (refinery process) from non-contact (storm water) drainage and/or effluent lines at the plant except where comingling is allowed before treatment. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.7(WW) NMAC, 20.6.2.3101 NMAC and 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any storm water run-off and/or "Waters of the State". The owner/operator shall notify the OCD within 24 hours of discovery of any contaminated storm water releases and/or discharges to "Waters of the State" and shall take immediate corrective action(s) to remediate and prevent the discharge from migrating off-property.

11. National Pollutant Discharge Elimination System (NPDES): Notice of Intent (NOI) to discharge to "Waters of the State" must be submitted to the OCD as a "Major Modification" request for OCD consideration, communication and approval with any conditions for the United States Environmental Protection Agency (EPA) to consider before issuing or denying a permit.

12. Wastewater from Pilot Travel Center (PTC): In order for OCD to allow sanitary wastewater from the PTC to be disposed at the Gallup Refinery, the owner/operator shall implement the following conditions and controls:

A. All wastewater effluent from the PTC and influent into the WWTS shall be EPA RCRA Non-Hazardous as defined in 40 CFR Part 261 and shall not contain phase separated hydrocarbons or solids.

B. The owner/operator shall design, implement and maintain a sampling and metering station on the PTC influent line into the WWTS. At a minimum, weekly flow rates from flow meters shall be recorded to assist with the treatability study and future evaluations of the treatment system. Grab samples shall be collected quarterly and analyzed for Hazardous Characteristics (TCLP) by EPA Method 1311, COD by EPA Method 410.1 and BOD by Method 405.1. All emergency up-sets or an exceedance of RCRA Standards shall be reported to OCD within 24 hours and immediate corrective actions taken.

C. The biohazard operation and maintenance plan or bio-safety plan for the waste treatment facility and evaporation pond treatment network shall be updated as needed to identify all possible bio-hazards, treatment, proper handling and disposal, protection for workers, visitors, public and wildlife.

I. ANNUAL REPORT: The owner/operator shall submit its annual report pursuant to 20.6.2.3107 NMAC to the Division's Environmental Bureau by September 1st of each year. The annual report shall include the following:

1. A summary of all major refinery activities or events including: a description of the monitoring and remediation activities, which occurred during the year with any conclusions and recommendations.

2. A summary of any new discoveries of groundwater contamination with all leaks, spills and/or releases and corrective actions taken. Include recommendations for further investigation and/or abatement.

3. Summary tables listing laboratory analytical data results of all water quality sampling for each monitoring point and plots of concentration vs. time for contaminants of concern from each monitoring point. Any WQCC constituent found to exceed the groundwater standard shall be highlighted and noted in the annual report. Copies of the most recent year's laboratory analytical data sheets with QA/QC shall also be included.

4. Include the annual water table (piezometric) and potentiometric elevation maps per aquifer system(s) using hydrostatic head elevation(s) from associated monitor wells in each aquifer system(s). A corrected water table or head elevation shall be determined for all wells containing phase-separated hydrocarbons. This map shall show aquifer system well locations, pertinent site features, and the ground water flow direction and hydraulic gradient. Include plots of head elevation vs. time for each ground water monitoring well over time.

5. Include the annual phase-separated hydrocarbon (PSH) and/or product thickness map from ground water in all monitoring and recovery wells. This map shall include isopleths or iso-concentration lines for products and contaminants of concern detected within each aquifer system.

6. Summary of the volume and quality of free product removed and the discharged treated ground water from the recovery wells during each quarter and the total recovered to date.

7. Results of ground water monitoring program with any recommendations based on contaminant hydrogeology. Include any recommended abatement or approved Contingency Plan.

8. Summary of all waste and wastewater disposed of, sold, or treated on-site, including a refinery wastewater balance sheet and mass balance of the evaporation pond rates.

9. Electronic filing: Owner/operator shall file this report in an acceptable electronic format with hard copy submittals to the NMED and OCD.

10. Summary and copies of all EPA/NMED RCRA activity.

3. CLASS V WELLS: Pursuant to 20.6.2.5002B NMAC, leach fields and other wastewater disposal systems at Division-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells. This Discharge Permit does not authorize the use of a Class V injection well for the disposal of industrial waste at the Facility, except for the disposal of contaminated ground water. Pursuant to 20.6.2.5005 NMAC, the owner/operator shall close any Class V industrial waste injection wells at its Facility that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes (*e.g.*, septic systems, leach fields, dry wells, *etc.*) other than contaminated ground water within 90 calendar days of the issuance of this Discharge Permit. The owner/operator shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated ground water in its Annual Report.

Other Class V wells, including wells used only for the injection of domestic wastes, must be permitted by the New Mexico Environment Department.

4. SCHEDULE OF COMPLIANCE:

A. PERMIT CERTIFICATION: The owner/operator shall sign and return this Permit to the Division's Environmental Bureau within 30 days of its receipt of this Permit.

B. SUBMISSION OF THE PERMIT FEES: As specified in Permit Condition 1.F, the Owner/operator shall submit the permit fee of $2,600.00 along with the signed Discharge Permit within 30 days of the receipt of the Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

C. ANNUAL REPORT: As specified in Permit Condition 2.I, the owner/operator shall submit a completed annual report to the Division's Environmental Bureau and copy to the NMED by September 1st of each year.

5. CERTIFICATION (OWNER/OPERATOR): By the officer whose signature appears below, acknowledges receipt of this Discharge Permit, and has reviewed its terms and conditions.

_____
Company Name - print name

_____
Company Representative - print name

_____
Company Representative - Signature

Title: _____

Date: _____

June 15, 2011

VIA EMAIL AND CERTIFIED MAIL No. 7010 0290 0002 7735 4865

Mr. John E. Kieling
Hazardous Waste Bureau
New Mexico Environmental Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Joel Dougherty (6EN-HE)
Hazardous Waste Enforcement Branch
U.S. EPA Region 6, Suite 1200
1445 Ross Ave.
Dallas, TX 75202-2733

RE: **PROCESS DESIGN REPORT, WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY; EPA ID #NMD000333211**

Dear Mr. Kieling,

In May 2010 Western received Approval With Modifications for the Wastewater Treatment Plant Work Plan (Alternate Design, Revision A) from both NMED HWB and OCD.

Gallup has made great progress in the design and construction of the upgraded wastewater treatment plant at the Gallup Refinery. Gallup is on track to meet the next CAFO Milestone (6) of July 31, 2011 to complete site preparation and foundations for the DGF and MPPE equipment as well as the remaining milestones. The project has evolved over the past year and the purpose of this communication is to update you and seek your approval of updates to the Work Plan. Two copies of the work plan are attached with one indicating where changes were made.

The primary purpose of this Work Plan revision is to address:

- Diversion and management of off-spec wastewater
- Replacement of Evaporation Pond #1 with a new lined sanitary treatment pond (STP-1)
- Factual Updates

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the

person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Thank you for your review of this request. Please feel free to contact Ed Ricge at 505-722-0217 with any questions.

Sincerely,

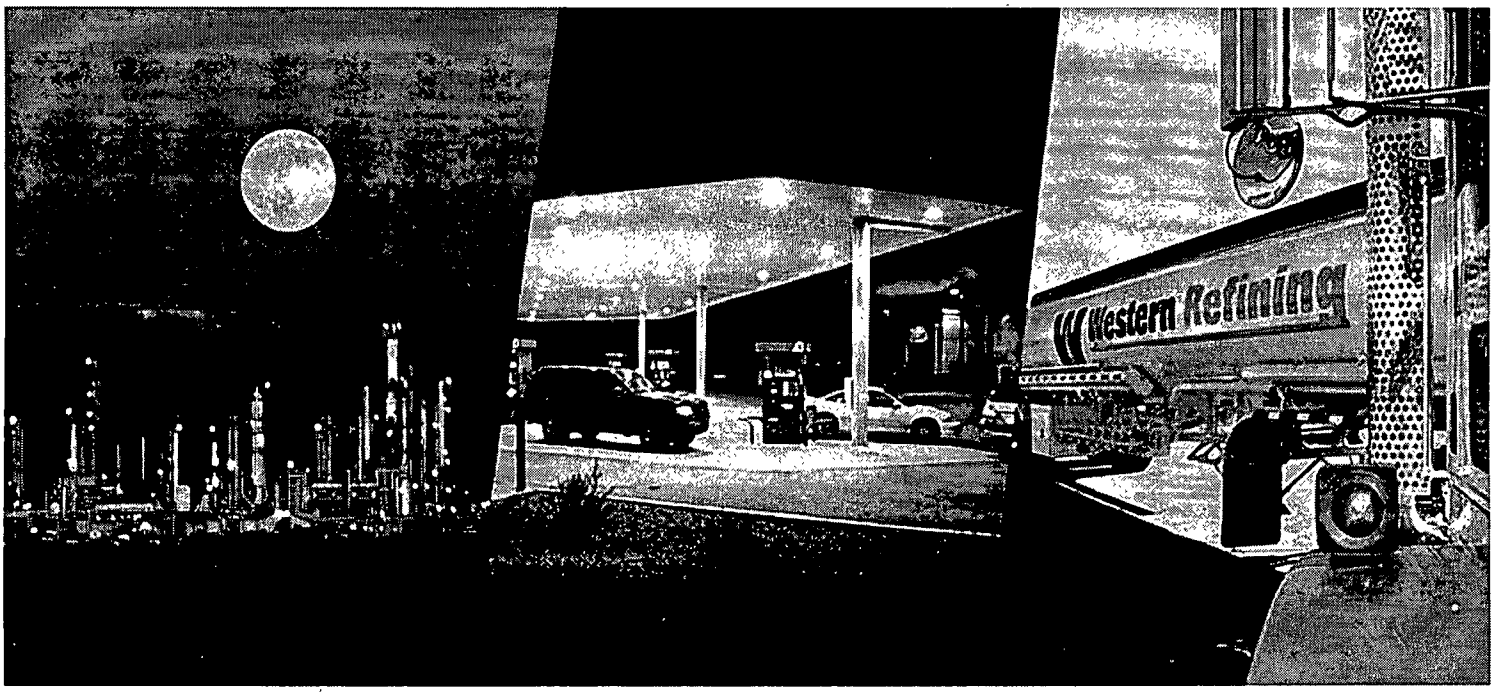
Mark B. Turri
Refinery Manager

cc: Carl Chavez OCD
Ed Riege Western Refining
Frank Keys Western Refining

Process Design Report
Wastewater Treatment Plant Work Plan
(Alternative Design, Revision B)

Western Refining
Gallup, New Mexico

Revised June 2011



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Introduction

The Western Refining Southwest's Gallup Refinery is a petroleum refinery located in Jamestown, New Mexico at Interstate 40 Exit 39. This Process Design Report for Wastewater Treatment Plant Work Plan (PDR Work Plan) presents the planned upgrades of the wastewater treatment plant (WWTP) at the refinery. This version of the PDR Work Plan is a revision to the previous version submitted in September 2009.

On August 27, 2007 Western Refining received a renewal of its discharge permit GW-032 from the New Mexico Oil Conservation Division (OCD). The permit required the refinery to complete certain actions related to wastewater management. This Work Plan addresses aspects of the following permit conditions:

1. Condition 16C - Treatment Study and Design
2. Condition 16D - Aeration Lagoons
3. Condition 16E – Evaporation Ponds

In August 2009, Western Refining, NMED and USEPA Region 6 agreed to the terms of a Complaint and Consent Agreement and Final Order (CAFO) that imposes additional regulatory requirements on the upgraded WWTP. Paragraph 100 of the CAFO sets forth certain WWTP-related compliance requirements under the Resource Conservation and Recovery Act (RCRA). These include:

1. Paragraph 100 B – "*Respondent shall cease the operation of, and dismantle, all existing Benzene/Air Strippers at its facility. . .*"
2. Paragraph 100 C – "*Respondent shall design, construct, properly permit, and commence operation of an upgraded wastewater treatment system . . . that is capable of treating all wastewater. . .*"
3. Paragraph 100 E – "*...The tanks and ancillary equipment in the upgraded wastewater treatment system that are in operation downstream of the API Separator shall be compliant with 40 C.F.R. § 262.34(a)...*"
4. Paragraph 100 G – "*Respondent shall limit volatile organic ("VO") air emissions from the upgraded waste water treatment system . . . to the limits in 40 CFR 265 subpart CC.*"
5. Paragraph 100J – "*...Respondent shall meet the following discharge limits for <u>any and all</u> wastewater discharged to any surface impoundments: benzene concentration in wastewater shall always be less than 0.5mg/L; wastewater shall have no RCRA hazardous characteristics...*"

1.1 Project Scope

The scope of the WWTP upgrade project consists of the following new systems:

- The oily refinery sewer and stormwater sewer have been combined into a single process sewer (hereafter referred to as Combined Process Sewer), as described in Section 4.1.1.
- A new equalization tank (Z84-T35, hereafter referred to as T35) has been installed that functions as the primary vessel into which the combined process sewer flows, as described in Section 4.1.2.
- Two existing tanks (Z84-T27 and Z84-T28, hereafter referred to as T27 and T28) have been refurbished and put in service. These tanks will provide additional equalization storage and emergency overflow capacity for T35, as described in Section 4.1.3. T35, T27 and T28 are all upstream of the existing "new" American Petroleum Institute (API) separator, (Z84-T5 and Z84-T6, hereafter referred to the API separator.)

- A Dissolved Gas Flotation (DGF) system, downstream of the API Separator, will be used to remove oil & grease and total suspended solids from the combined process sewer. The DGF system is described in Sections 3.1 and 4.1.5.
- A Macro Porous Polymer Extraction (MPPE) system, downstream of the DGF system will be used to remove dissolved benzene and other hydrocarbons from the combined process sewer, as described in Sections 3.2 and 4.1.6.
- A Sanitary treatment Pond (STP-1), with double liner and leak detection, will be used to remove BOD-5 from Pilot Travel Center and refinery sanitary sewers, as described in Section 4.1.7.

The following equipment and facilities will be decommissioned after WWTP upgrades:

- Benzene Stripper 1, 2 and 3
- Aeration Lagoons 1 and 2 (AL-1 and AL-2)
- Evaporation Pond 1 (EP-1)
- The Old API Separator (hereafter referred to as OAPIS) that was used to collect and treat refinery storm sewer. The OPAIS was decommissioned by March 01, 2011, as required by the CAFO.

The following equipment will continue to operate after WWTP upgrades:

- New API Separator (NAPIS)
- Evaporation Ponds 2 through 12 (EP-2 through EP-12)

The upgraded WWTP process flow diagram of is shown in Figure 1. A site plot plan is shown in Figure 2.

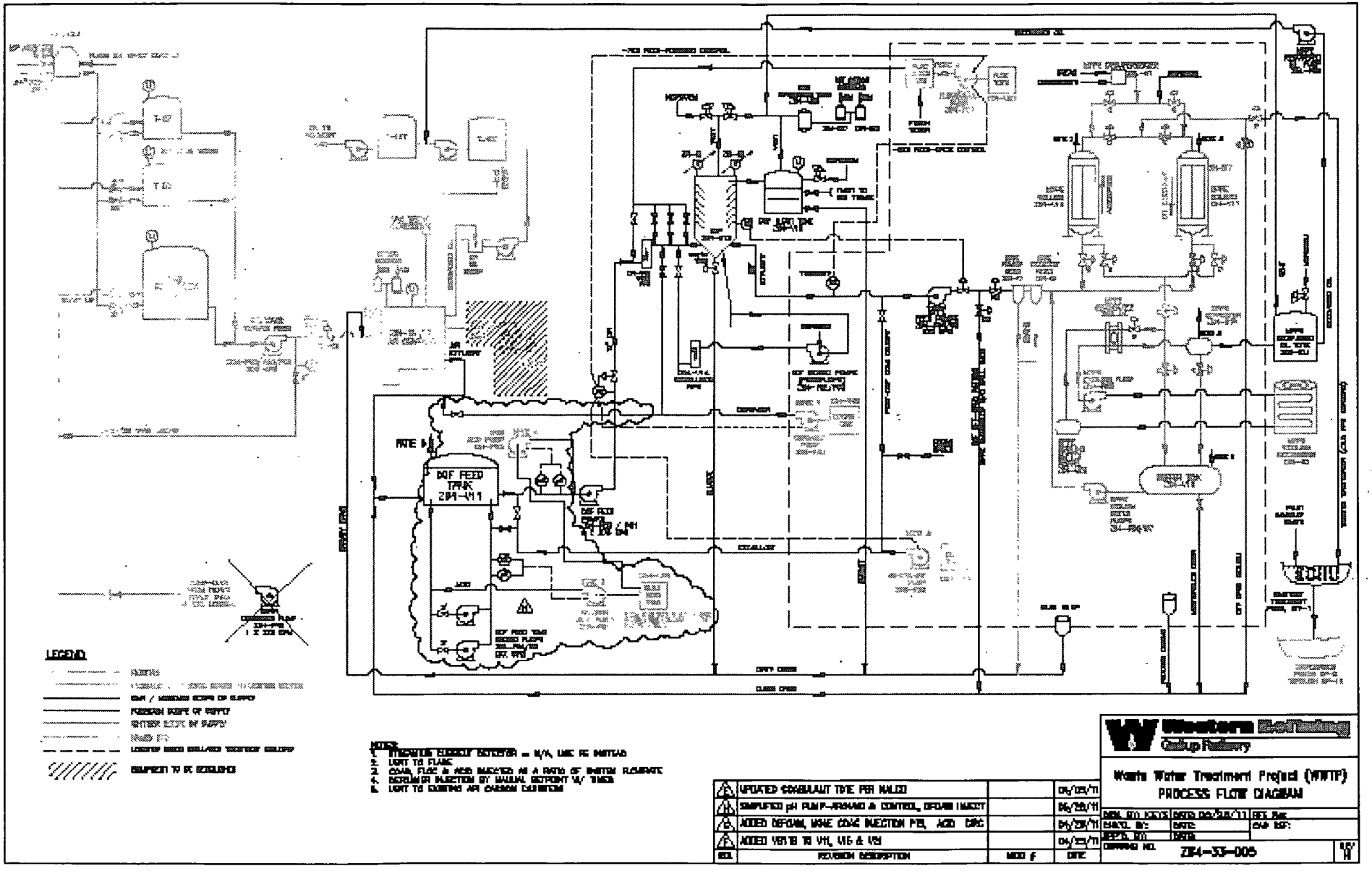


Figure 1, Process Flow Diagram

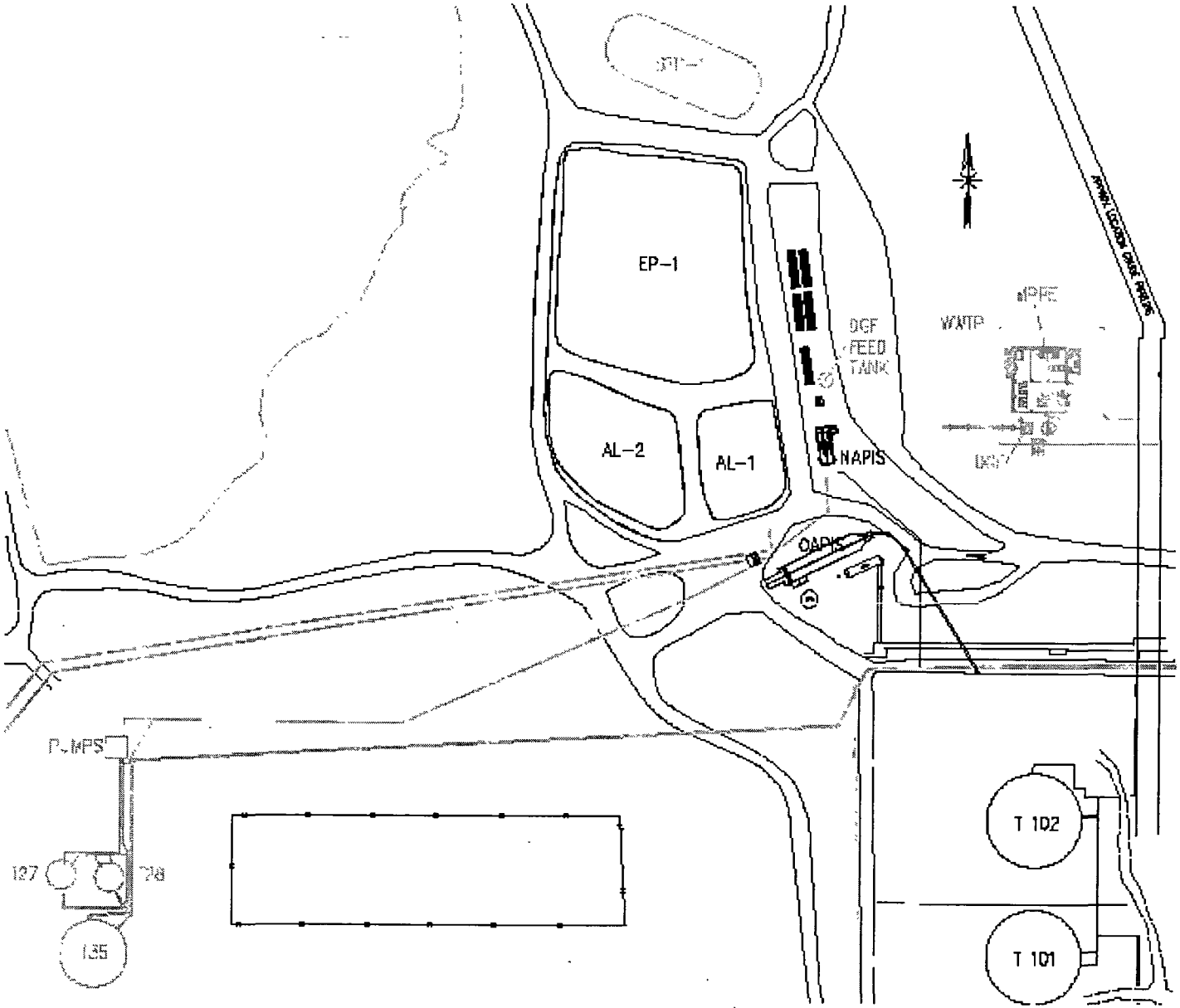


Figure 2, Site Plot Plan

1.2 Related Project - Pilot Travel Center Lift Station

A lift station to collect, screen and pump the sanitary/restaurant wastewater from the Pilot Travel Center has recently been installed and put into service. A force main conveys the wastewater to the WWTP, where it will be treated in a new Sanitary Treatment Pond (STP-1), before being discharged into EP-2.

1.3 Treatment Objectives

The ultimate objective of the upgraded WWTP is to meet the discharge limits defined in the CAFO. To achieve this, two state-of-the-art technologies have been selected, as described in Section 3.0. Each of these technologies will remove specific components from the combined process sewer. The upgraded WWTP will discharge into a new double lined aerated pond (STP-1) with no visible free oil, <0.5 mg/L benzene and no RCRA hazardous characteristics.

1.4 Regulatory Compliance

The upgraded WWTP described herein will be designed and constructed in accordance with the requirements of OCD permit GW-032 and the CAFO.

2.0 Wastewater Source

This section describes the sources of wastewater generated at the refinery and fall into two broad categories: those generated at the refinery and those generated at the adjacent Pilot Travel Center.

2.1 Refinery Wastewater

The refinery generates four different wastewater streams. They are:

- Oily process sewer resulting from normal refinery operations,
- Non-oily process sewer resulting from operations of the Reverse Osmosis (RO) unit, water softeners, cooling tower blowdown and boiler blowdown,
- Stormwater runoff from the refinery units, and
- Sanitary sewer from various restroom and kitchen facilities within the refinery and seven adjacent company-owned homes.

The oily process sewer, non-oily process sewer and stormwater runoff flow into a new combined process sewer, as described in Section 4.1.1. This combined process sewer then flows into T35.

The sanitary wastewater flows into the refinery's newly constructed lift station, as described in Section 2.2. This lift station will then flow to the new STP-1 to be constructed.

2.2 Pilot Travel Center Wastewater

The refinery has a contract with the adjacent Pilot Travel Center to treat the sanitary and restaurant wastewaters generated by that facility. The wastewater from the restaurant first passes through a Pilot-owned grease trap system that was installed in 2008. This grease trap effluent along with sanitary/restaurant wastewater from the rest of the Pilot Travel Center then flows into a Pilot-owned septic tank system. Septage is pumped out of this septic system on a scheduled quarterly basis for off-site disposal (as reported by Pilot Travel Center staff). Liquid effluent from this septic system gravity flows to a Pilot-owned lift station, located on their property. The lift station's submersible pumps then transfer the wastewater through a pipeline to the refinery for further treatment. Western Refining now operates a new lift station on its property to receive the wastewater from the Pilot Travel Center's lift station and the refinery's sanitary systems.

The Pilot Travel Center generates other wastewaters that are not discharged to the refinery. These other waste streams include truck washing and vehicle maintenance activities. They are managed with on-site oil-water separators, holding tanks and retention ponds.

2.3 Design Flow

The design flowrates for the individual wastewater sources are summarized below.

Design Flow Rates		
	Average, gpm	**Maximum, gpm**
API Separator Effluent[1]	250	500
Pilot Travel Center	50	120
RO Reject	100	150
Refinery Sanitary	4	--

1. API Separator effluent is the combined process sewer, which contains the oily and non-oily sewers, cooling tower blowdown and boiler blowdown.

The design flowrate for the API Separator effluent was set at an average of 250 gallons per minute (gpm) and a maximum of 500gpm. These flowrates were based on historical data with allowances for future expansion. The maximum flowrate for the upgraded WWTP is equal to the maximum flowrate of the API Separator with both bays in service, which is 500gpm.

The contract between Western Refining and the Pilot Travel Center limits their maximum sanitary sewer flowrate to 50gpm. However, the refinery's new lift station pumps are capable of handling a combined flowrate of 120gpm.

The average flowrate for the refinery's sanitary sources is based on the number of refinery employees. The maximum flowrate for the refinery's sanitary source is included in the Pilot Travel Center maximum flowrate, since it is also constrained by the combined pumping capacity of the Western-owned lift station.

3.0 Technology Selection

This section describes the two major technologies selected for the upgraded WWTP: a Dissolved Gas Flotation (DGF) system and s Macro Porous Polymer Extraction (MPPE) system. The DGF system described in Section 3.1 replaces Oil and Grease (O/G) and Total Suspended Solids (TSS) removal capabilities of the tank-based separator concept from the prior versions of this PDR. The MPPE system described in Section 3.2 replaces the benzene removal capabilities of the bioreactor concept from the prior versions of this PDR. Details on implementation of these technologies at the Gallup Refinery are contained in Section 4.0.

3.1 Dissolved Gas Flotation (DGF)

API separators, in general, provide first-stage (i.e. primary) oil-water separation by taking advantage of Stokes' Law. A second-stage oil-water separation is required to provide additional O/G removal beyond what is consistently achievable by API separators. Second-stage oil-water separation must remove the residual O/G and TSS that do not readily separate by gravity (i.e. emulsified O/G) and is required to provide appropriate influent quality to the downstream unit process (MPPE in our case).

A DGF system will provide the second-stage oil-water separation process for the upgraded

WWTP, as it is common refinery technology used downstream of API separators. Emulsified O/G is electrically released from the wastewater by the addition of coagulant and flocculant. After the pH is adjusted, the wastewater is pressurized in the presence of nitrogen, creating a super-saturated solution. When pumped into the DGF flotation chamber at atmospheric pressure, micron-sized nitrogen bubbles are released that physically float the flocculated O/G and TSS to the surface. This material is appropriately called "float". The float is thickened and removed from the top of the DGF by mechanical systems and managed in a Float Tank. The clarified water is pumped from the bottom of the DGF where a slip-stream is taken to provide the previously mentioned nitrogen super-saturation. More information on the DGF unit is contained in Section 4.1.5.

3.2 Macro Porous Polymer Extraction (MPPE)

The MPPE technology has been selected to remove all residual dissolved and dispersed hydrocarbons from the wastewater stream. MPPE technology has been successfully applied to the treatment of process water, offshore produced water, industrial wastewater and contaminated groundwater since 1994. It is a highly effective, fully automated, remote controlled and guaranteed method for removing dissolved and dispersed hydrocarbons from water with efficiencies of 99.9999% down to below ppb level by means of extraction in an MPP bed. With over 80 years of accumulated worldwide experience, the MPPE Technology is tested and proven with references by many respected companies.

The Macro Porous Polymer (MPP) acts as a carrier for an immobilized, nontoxic and biodegradable extraction liquid that has a high affinity to the components to be removed. That is, the removed constituents have partition coefficients such that they are guaranteed to have a high affinity to the MPPE extraction liquid. The treated wastewater is then free of the target constituents (i.e. benzene), which now reside only in the extraction liquid.

MPP media have a diameter of 1,000 microns, with pore sizes of 0.1 to 10 microns. These MPP media are capable of reducing contaminant concentrations in water by a factor of more than 1 million, which means that concentrations of thousands ppm (parts per million) can be lowered to below 1 ppb (parts per billion). This is done in only one cycle. The hydrocarbon removal efficiencies result from the high number of mass transfer sites developed in the packed column beds. This is mainly due to the high specific surface area associated with the porous polymer media.

Aside from clean treated water, the unit also yields almost 100% pure hydrocarbons suitable for reuse. Dissolved and dispersed compounds that can be removed with MPPE technology include:

- aromatics (i.e. benzene, toluene, xylenes and ethylbenzene),
- polyaromatic hydrocarbons (PAHs) (i.e naphthalenes, phenanthrenes, dibenzothiophenes),
- aliphatics including halogenated aliphatics.

The extraction liquid must be regenerated at fixed intervals to sustain hydrocarbon removal efficiencies. This regeneration is accomplished by back flowing low pressure steam across the column beds. The hydrocarbon laden stripping steam is condensed and sent to a separator, where recovered hydrocarbon and water are separated by gravity. This essentially 100% pure hydrocarbon phase is recycled to the refinery for reprocessing. The condensed water is recycled back to the MPPE unit, via a buffer tank.

The MPPE system utilizes two columns that cycle between absorption and regeneration,

allowing continuous operation. One column is always extraction hydrocarbons, while the other is being regenerated. This column cycle time is anticipated to be once every hour.

A schematic of the MPPE process is provided in Figure 3.

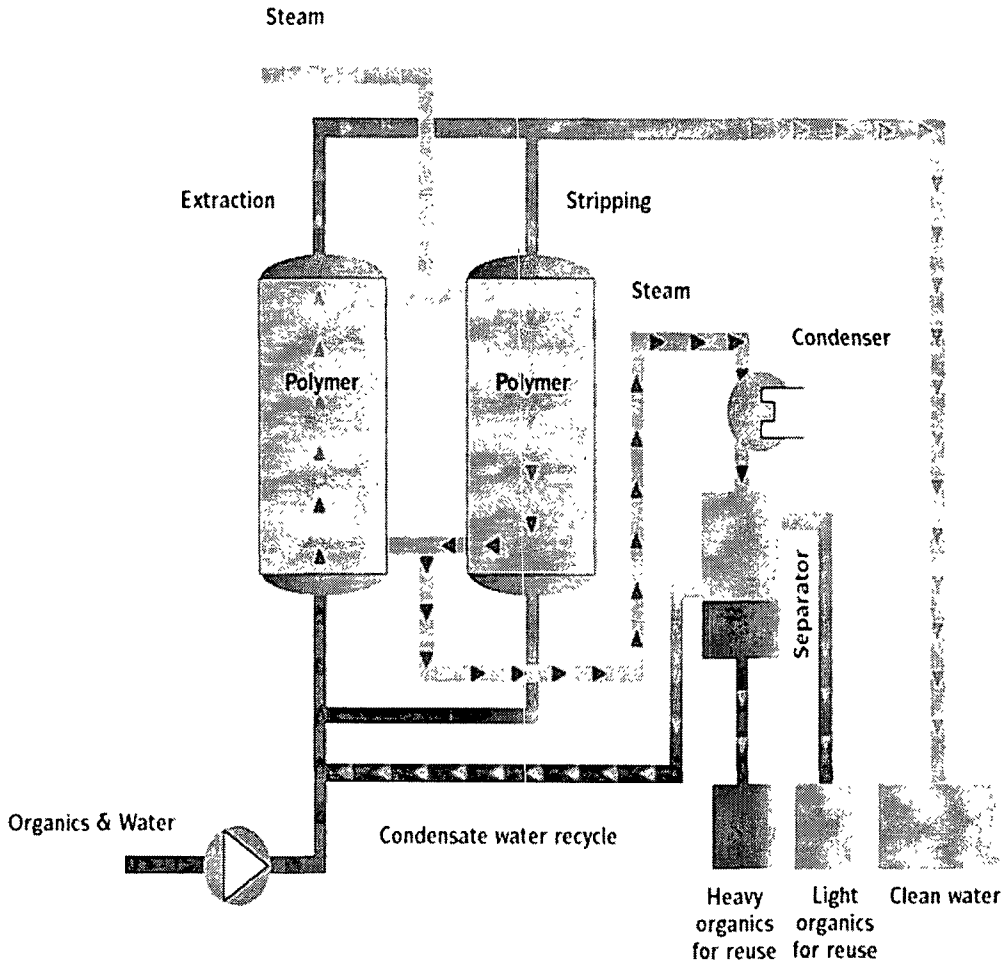


Figure 3, MPPE Schematic
(courtesy: Veolia Water)

4.0 Process Description

This section describes the new systems that will comprise the refinery's upgraded WWTP. The first subsection describes the new systems to be installed during the WWTP upgrades. The second subsection describes the existing systems that will be decommissioned because of the WWTP upgrades. The third subsection describes how the refinery will manage off-spec wastewater that may result from system anomalies. The last subsection describes tank design, secondary containment and leak detection. Please refer to the Process Flow Diagram shown in Figure 1 and the Site Plot Plan shown in Figure 2.

4.1 New Systems

4.1.1 Combined Process Sewer

During WWTP upgrades, two separate sewers were combined into one 24-inch process sewer; the stormwater sewer and the oily refinery sewer (containing RO rejects, water softener

regeneration, boiler blowdown and cooling tower blowdown). This new combined process sewer is constructed of partially buried carbon steel pipe and is approximately 1,200 linear feet long. It flows by gravity to the Equalization Tank (T35) and/or Surge Tanks (T27, T28). T35 is the primary destination of the combined process sewer, but if conditions dictate that wastewater cannot be sent to T35, it can be re-routed to T27and/or T28, by manipulating manual valves. Examples of this situation include when T35 is at its liquid holding capacity or is out of service for maintenance.

Cleanouts are installed in the combined process sewer to allow regularly scheduled clearing of blockages and sedimentation. During cleanouts, the material will be broken-up, fluidized and pushed into T35 by high pressure water and/or steam. The majority of the combined process sewer is buried below the frost line to prevent freezing, but near the tanks, the above ground portion is protected from freezing by electric heat tracing and insulation.

4.1.2 Equalization Tank (T35)

A new Equalization Tank (T35) has been constructed to equalize variability in both flowrate and material concentration before introduction to the API Separator, DGF and MPPE. The operating level of T35 will vary according to fluctuations in the combined process sewer flow, thus providing surge control function. Since the tank will normally operate at one-third to one-half of capacity, the remaining volume is available for surge control capacity.

T35 is equipped with an internal floating roof to minimize and control volatile air emissions. Sample ports are provided to allow for testing of both influent and effluent wastewater. T35 is 78ft in diameter by 32ft high. Maximum fill height is 28ft equating to 882,000 gallons of usable volume. With a routine operating level of one-third to one-half full, T35 will provide 22 to 33 hours of residence time for equalization (500,000 to 333,000 gallons), with 33 to 44 hours of surge capacity (503,000 to 671,000 gallons), based on a 250gpm average flowrate

Oil that accumulates on the water surface of T35 is removed by a skimmer device attached to the tank's floating roof. The skimmed oil is collected by vacuum truck and transferred to the refinery's oil recovery system for recycling back to the refining process. The oil level is checked on a routine basis and skimmed, as required by operating conditions and performance. It is considered undesirable for the floating oil to accumulate to such a level that it would be pumped to the API Separator. We anticipate removing oil from T35 every couple weeks, if not weekly.

Solids entering T35 will settle to the bottom of the tanks as a layer of sludge. To minimize this, provisions for tank mixing is designed into the system. T35 has internal jet nozzle mixers installed that draw a tank volume equal to three times that recirculated back to the tank. For example, if the Wastewater Transfer Pumps (described in Section 4.1.4) circulate 250gpm back to the tank, these jet mixers will induct an additional 750gpm of tank contents. This results in very effective tank mixing. Additional flexibility is designed into the system to allow wastewater transfer to the API Separator, flow from the combined process sewer and recirculatory mixing to occur simultaneously.

Additionally, sludge that settles out in the bottom of the tank will require periodically cleaning. This is expected to occur every three to five years, lasting two to four weeks. Standard refinery tank cleanout and sludge management procedures will be followed. During these periods, equalization of the combined process sewer will be accomplished using T27

and/or T28. Flexibility is designed into the piping system to allow wastewater to be routed to any of the three tanks, as needed.

T35 level will be monitored daily to verify adequate pump rate. If the tank level begins to rise, the transfer flowrate is increased by opening the flow control valve. Similarly, if the tank level begins to drop, the transfer flowrate will be decreased by closing the flow control valve.

4.1.3 Surge Tanks (T27 & T28)

T27 and T28 are existing tanks located near T35 that have been refurbished and put into service to provide additional equalization storage and emergency overflow capacity for T35. These tanks will be used only when T35 is at its liquid holding capacity or is out of service for maintenance.

Like T35, T27 and T28 are also equipped with internal floating roofs to minimize and control volatile air emissions. Sample ports are provided to allow testing of both influent and effluent wastewater. These tanks are 33.5ft in diameter by 32ft high. Both tank's maximum fill heights are 28ft, which equates to 166,000 gallons of usable volume each.

The combined surge capacity of T35, T27 and T28 is 875,000 to 1,042,000 gallons, depending on the operating level of T35. The three tanks will be able to hold 2.5 to 3.0 days worth of flow from the combined process sewer, if the API Separator, DGF and/or MPPE units malfunction or are taken out of service for maintenance.

Oil that accumulates on the liquid surfaces and solids that settle to the bottoms of T27 and T28 will be managed in a manner similar to that described for T35.

In previous version of this PDR, it was anticipated that off-spec wastewater would be returned to T27 and/or T28. This provision has since then been eliminated from the WWTP upgrades. For that reason all references to RCRA 90-day accumulation requirements have been removed. However, the need to periodically re-suspend settled solids in T35, 27 and/or T28 still exists. This re-suspension will be accomplished by recirculation of the tanks, a commonly used method for mixing tank contents. The Wastewater Transfer Pumps, as described in Section 4.1.4, will be used for this purpose.

4.1.4 Wastewater Transfer Pumps

Three 15hp Wastewater Transfer Pumps are used to transfer wastewater from T35, T27 and T28 to the API Separator. Transfer will only occur from one tank at a time. Normally, one pump is in use and pumps 275gpm, with two additional pumps available as installed spares. A flow meter and flow control valve are installed in the system to control the rate of wastewater transfer to the API Separator. Two pumps can operate at the same time to provide a combined flowrate of 500gpm. Overall flowrate to the API Separator is limited to 500gpm.

Approximately 1,300 linear feet of 6-inch diameter piping connects the Wastewater Transfer Pumps to the API Separator. The piping is protected from freezing by electric heat tracing and insulation.

With one pump operating at 275gpm, this pipeline flows nearly continuously at 3.1 feet per second, which is an industry standard for scour velocity. Occasional pressure surveys will be conducted to determine if solids have settled out of the flow. Settled solids will affect flow performance. If settling is determined to have occurred, two Wastewater Transfer pumps will be operated simultaneously. This will increase the flowrate to 500gpm and the corresponding line velocity to 5.6 feet per second, effectively sweeping out any settled solids.

Additionally, CAFO compliance requires that this pipeline to be fully welded with daily inspections.

4.1.5 DGF System

The DGF system is a single, covered, above-ground, stainless steel vessel, with a design flowrate of 275gpm and a maximum flowrate of 500gpm. Wastewater from the API Separator gravity flows to a DGF Feed Tank where coagulant is injected and pH is adjusted. DGF Feed Pumps will the transfer wastewater to the DGF system. Just before entering the DGF, flocculant will be injected into the wastewater. Nitrogen will be used to remove the O/G and TSS, as described in Section 3.1.

The clarified water from the DGF system will then be pumped to the MPPE system (as described in Section 4.1.6) by two pumps - one in operations and one in standby). Each pump has a design flowrate of 275gpm with a maximum flowrate of 500gpm.

The float material removed from the DGF will be sent to a Float Tank, where volume reduction and thickening will occur. Oily solids collected in the Float Tank will be recycled to a refining process (on-site or off-site). Should operating experience indicate that further volume reductions occur; blind-flanged nozzles are included for possible future mechanical dewatering. Water decanted from the Float Tank will be routed back to the API Separator for reprocessing through the DGF system.

It was determined that reliable operations and performance could be achieved by a single DGF, with redundant recirculation pumps. This design configuration is acceptable because the vendor claims that no reasons exist for the unit to be out of service for periods longer than the 2.5 to 3.0 days of storage provided by T25, T27 and T28. The redundant DGF recirculation pump will provide flexibility in operations for the single critical rotating equipment item in the DGF system. Attachment A provides information from the DGF vendor to support this design approach.

4.1.6 MPPE System

The MPPE system consists of two columns operating in parallel, as described in Section 3.2. One column will be in service (absorbing) while the other is being regenerated, and will switch hourly. The absorbing column will receive clarified water from the DGF system and will flow from the bottom to the top. Once benzene and other hydrocarbons are removed by the absorption column, RCRA compliant water will be discharged by gravity to STP-1, as described in Section 4.1.7.

Periodic regeneration will occur automatically every hour. Regeneration requires low pressure saturated steam to flow from the top and to the bottom. The hydrocarbon-laden steam will then be condensed and separated to produce a water stream that is recycled back to the absorbing column and a hydrocarbon stream that is collected and periodically pumped back to the refinery for reprocessing.

Attachment B provides vendor-supplied basic maintenance requirements for the MPPE. Other detailed maintenance instructions include replacement of pump seals and valve seats, instrument recalibration and media replacement; all of which can be accomplished in a matter of hours. This maintenance is anticipated to be able to occur within the 2.5 to 3.0 day wastewater retention window provided by T35, T27 and T28, as discussed in Sections 4.1.2 and 4.1.3.

4.1.7 Sanitary Treatment Pond (STP-1)

Pilot Travel Center and refinery sanitary wastewater will be biologically treated in an aerated treatment pond, before being discharged to the evaporation pond network. All solids in the Pilot wastewater are removed first by a Pilot-owned septic system. Effluent from this septic system is then pumped to a screening system at the refinery lift station. Pumps at the lift station will transfer wastewater to STP-1. Flow meters will be installed to track volumes.

This new Sanitary Treatment Pond (STP-1) will treat BOD-5 and other soluble organics. STP-1 will be designed and installed with double liner and leak detection, in accordance with NM-OCD requirements. For operational flexibility, STP-1 will be partitioned giving two individual and separate compartments that will allow one side to be cleaned and/or inspected, while the other side continues to operate. Treated water from STP-1 will gravity flow into EP-2 and then into the existing evaporation pond network.

MPPE effluent will also gravity flow into STP-1. A flow meter will also be installed on this line to track discharge volumes. MPPE effluent will be free of floating oil, have benzene concentrations less than 0.5 mg/L and will have no RCRA hazardous characteristics, as required in CAFO paragraph 100J. However, STP-1 will provide another layer of protection against unwanted discharges of contaminated water in existing surface impoundments. Evaporation pond influent quality will be assured by the following WWTP upgrades:

- flowrates and waste loadings will be less variable because of T35, T27 and T28,
- Improved oil-water separation and removal because of the DGF system, and
- Robust and reliable removal of benzene and other hydrocarbons because of the MPPE system.

4.2 Decommissioned Systems

Placing the upgraded WWTP system into service will allow the following existing systems to be decommissioned:

4.2.1 Benzene Strippers

The MPPE system will replace the current benzene removal capabilities of the three benzene strippers located near the old API Separator (Z84-V4, V5 and V8) and one stripper located in the refinery units (Z84-V7). These air-strippers and associated equipment will be decommissioned and dismantled.

4.2.2 AL-1, AL-2 and EP-1

The two Aeration Lagoons (AL-1 and AL-2) and Evaporation Pond 1 (EP-1) will be decommissioned and closed in-place, pursuant to the "Closure Plan Aeration Lagoons". The surface aerators used in AL-1 and AL-2 will be reused in STP-1. The Corrective Measures Implementation Work Plan for the Wastewater Aeration Lagoons (Solid Waste Management Unit No. 1) has been submitted separately to NMED (July 30, 2009) under which closure will be conducted following NMED approval.

4.2.3 Old API Separator (OAPIS)

The OAPIS originally collected stormwater from the process area. Recent work has been completed that removes the stormwater from this OAPIS and combines it with the refinery sewer; both of which now flow into T35 with surge capacity provided by T27 and/or T28. The OAPIS inlet was physically separated and plugged from the old sewer system by March 01, 2011, as required by the CAFO. Because the OAPIS was designated by the NM-EPA as Solid Waste Management Unit #14, it will be demolished in accordance with the Investigation Work Plan Old API Separator (Revised October 2010).

4.3 Management of Off-Spec Wastewater

DGF and MPPE process health will be monitored twice per day, with samples collected at approximately 7:00am and 7:00pm. On-site laboratory Gas Chromatograph/ Mass Spectrometer (GC/MS) analysis will be conducted to determine benzene concentrations in the MPPE effluent. Results will be available within a few hours of sample collection and will be used as process knowledge in determining when to divert flow from STP-1. To account for the fact that our on-site method is not identical to the EPA-approved method, and to act proactively, benzene concentrations of 0.4 mg/L trigger diversion from STP-1.

As discussed in the last paragraph of Section 4.1.3, earlier versions of this PDR stated that off-spec wastewater would be returned to T27 and/or T28. This provision has since then been eliminated from the WWTP upgrades. If effluent from either the DGF or MPPE are found to be off-spec (i.e. > 0.5 mg/L benzene), flows will be diverted to the DGF Feed Tank instead of T27 and/or T28. The design and construction of this DGF Feed Tank will be in accordance with all RCRA standards, as described in Section 4.4.

If wastewater is diverted from STP-1, corrective actions will be taken with respect to the DGF and/or MPPE systems. During the diversion period, no post-API material will be returned to T35, T27 or T28. Wastewater transfer from T35, T27 or T28 to the API Separator will stop until on-site laboratory analysis proves that benzene concentrations in the MPPE effluent are less than 0.4 mg/L. Only then will flow through the WWTP system, and subsequent discharge into STP-1, be returned to normal operating conditions.

4.4 Tank Design, Secondary Containment and Leak Detection

Under the terms of the CAFO, all tanks and ancillary equipment downstream of the API Separator are subject to 40 CFR §262.34(a) which contains language related to 90-day accumulation without a permit. By reference, these systems are therefore subject to 40 CFR §265 Subpart J for tank systems. Accordingly, all systems downstream of the new API separator will comply with the tank design requirements of 40 CFR §265 Subpart J, including secondary containment and leak detection.

As discussed in Sections 4.1.3 and 4.3, diversion of off-spec DGF/MPPE wastewater will not return to T35, T27 and/or T28. Instead, all off-spec material will be piped to the DGF Feed Tank; which is located after the NAPIS and will comply with 40 CFR §265 Subpart J for tank systems.

The table below shows the components of the upgraded WWTP project described in this Work Plan. For each component, the table lists whether it is subjected to the requirements of paragraphs 100 E and F of the CAFO and, if so, how secondary containment and leak detection will be accomplished to conform to the requirements of 40 CFR §262.34(a) and 40 CFR §265

Subpart J Tank Systems.

There exist instances where above ground "all welded" pipe connections are outside secondary containment areas (i.e. at flow meters and valve locations). In these instances, dedicated secondary containment devices (i.e. fabricated or constructed boxes) will be installed under the non-welded connections.

CAFO Sub Part J Compliance					
Item No.	Name	Description	Covered by CAFO?	Secondary Containment	Leak Detection
1	Buried Combined Process Sewer to T35, T27 & T28	Combines oily process and stormwater sewers into a single pipeline flowing into T35, T27 & T28	No; not downstream of API Separator	None	None
2	Above ground Combined Process Sewer to T35, T27 & T28	As the combined process sewer enters the bermed secondary containment area for T35, T27 & T28, it will be routed above ground	No; not downstream of API Separator	Yes; inside bermed tank containment area with volume to contain 1.3 times largest tank	Yes; Visual
3	T35 (Equalization Tank)	Provides wastewater equalization and surge capacity for combined process sewer	No; not downstream of API Separator	Yes; inside bermed tank containment area with volume to contain 1.3 times largest tank	Yes; Double Bottom with Leak Detection at the Tank Perimeter
4	T27 & T28 (Surge Tanks)	Additional surge & equalizations capacity for combined process sewer	No; not downstream of API Separator. *Note off-spec diversion now only after NAPIS.*	Yes; inside bermed tank containment area with volume to contain 1.3 times largest tank	Yes; Double Bottom with Leak Detection at the Tank Perimeter
5	Above ground piping from T35, T27 & T28 to Wastewater Transfer Pumps	Pump suction from all three tanks	No; not downstream of API Separator	Yes; inside bermed tank containment area with volume to contain 1.3 times largest tank	Yes; Visual (daily)
6	Wastewater Transfer Pumps	Pumps used to transfer wastewater from T35, T27 & T28 to API Separator	No; not downstream of API Separator	Yes; curbed area inside Pump Shed, also inside bermed tank containment area with volume to contain 1.3 times largest tank	Yes; Visual (daily)

CAFO Sub Part J Compliance					
Item No.	Name	Description	Covered by CAFO?	Secondary Containment	Leak Detection
7	Above ground piping from Wastewater Transfer Pumps to API Separator	Single discharge pipeline from the Wastewater Transfer Pumps to API Separator	No; not downstream of API Separator	Yes; essentially all above ground; welded pipe, flanges, joints and connections. Sleeved underground road crossings with leak indication	Yes; Visual (daily)
8	API Separator including skimmed oil and bottom solids systems	Existing; no change	No; no change	Existing; no change	Existing; no change
9	DGF Feed Tank	Surge, pump suction, chemical treatment and pH adjustment between API Separator & WWTP	Yes, Downstream of API separator	Yes; to be installed inside concrete containment area with volume 1.3 times largest tank	Yes; Visual (daily)
10	DGF Feed Pumps	Pumps used to transfer wastewater from DGF Feed Tank to WWTP	Yes, Downstream of API separator	Yes; to be installed inside concrete containment area with volume 1.3 times largest tank	Yes; Visual (daily)
11	Piping from DGF Feed Pumps to DGF system	Single discharge pipeline from the DGF Feed Pumps to DGF system	Yes; downstream of API Separator	Yes; above ground; welded pipe flanges, joints and connections	Yes; Visual (daily)
12	DGF System	Elevated Vessel	Yes; downstream of API Separator	Yes; Inside curbed concrete containment adjacent WWTP bldg with volume1.3 times largest tank	Yes; Visual (daily)
13	MPPE Feed Pumps	Pumps used to transfer wastewater from DGF to MPPE	Yes, Downstream of API separator	Yes; to be installed inside WWTP bldg concrete containment area with volume 1.3 times largest tank	Yes; Visual (daily)
14	Piping from DGF system to MPPE system	Single discharge pipeline from the MPPE Feed Pumps to MPPE system	Yes; downstream of API Separator	Yes; to be installed inside WWTP bldg concrete containment area with volume 1.3 times largest tank	Yes; Visual (daily)

CAFO Sub Part J Compliance					
Item No.	Name	Description	Covered by CAFO?	Secondary Containment	Leak Detection
15	MPPE System	Various elevated vessels	Yes; downstream of API Separator	Yes; to be installed inside WWTP bldg concrete containment area with volume 1.3 times largest tank	Yes; Visual (daily)
16	Treated Effluent from MPPE system	Single discharge pipeline from the MPPE system to STP-1	No; RCRA non-hazardous; <0.5 mg/L benzene	None, but will be installed above ground	None
17	Off-Spec Diversion Piping from WWTP to DGF Feed Tank	Single discharge pipeline from the WWTP to DGF Feed Tank	Yes; downstream of API Separator	No; above ground; welded pipe flanges, joints and connections	Yes; Visual (daily)
18	DGF Float Tank	Elevated vessel for DGF float management	No; oil-bearing residuals exemption per 40 CFR 261.4(a)(12)	Yes; Inside curbed concrete containment adjacent WWTP bldg with volume1.3 times largest tank	Yes; Visual (daily)
19	Recovered Hydrocarbon Piping	Single discharge pipeline from the MPPE Recovered Oil Tank to pump discharge at T105	No; by-product reclaimed and exempt per 40 CFR 261.2 (c)(3)	None, but still above ground; welded pipe flanges, joints and connections	None
20	STP-1	Receives sanitary and treated process wastewater.	No; For treatment of sewage wastewaters	Yes; OCD requirement for double liners	Yes; OCD requirement for leak detection

4.5 Air Emissions Control

The upgraded WWTP will meet all air emission regulatory requirements, including Paragraph 100 G of the CAFO as applicable, through the following measures:

- Internal floating roofs are used to control air emissions from T35, T27 and T28.
- The existing GAC system (located near the NAPIS) will be used to control emissions from the DGF Feed Tank.
- A new iron-impregnated wood / Granular Activated Carbon (GAC) canister system will be used to control emissions from the DGF, DGF Float Tank and the MPPE Recovered Oil Tank.
- The existing flare system will be used to control emissions from both MPPE Columns, the MPPE Separator and the MPPE Buffer Tank.

Vapor sampling points will be added to the DGF emission point, MPPE emission point, GAC inlets and outlets, as previously requested by the NMED. However, routine sampling of these points are not anticipated, with the exception of the following: GAC performance will be based on results from exhaust vapor (GAC outlet) sampling and carbon replacement will be based on breakthrough calculations.

5.0 Project Schedule

The required project schedule for design and construction of the upgraded WWTP is in accordance with the revised CAFO Milestone Schedule, recreated below.

CAFO Milestone Schedule	
1. Submit proof of procurement including vendor Acknowledgement of Order, vendor's factory order number, and estimated delivery date for DGF and MPPE units to demonstrate Respondent will comply with milestone 7 of this chart.	September 30, 2010
2. Commence construction of Equalization Tank.	September 30, 2010
3. Complete installation of Tanks 27 and 28, and Equalization Tank and ancillary equipment and connect the storm water management system to the current Waste Water Treatment System.	December 31, 2010
4. Commence operation of the storm water management system.	January 15, 2011
5. Complete measures to prevent the Old API Separator from receiving and flows, including removal of segments from, and insertion of cement plugs in, all inlet piping to the Old API Separator.[2]	March 1, 2011
6. Complete site preparation and foundations for DGF and MPPE equipment.	July 31, 2011
7. Complete installation of interconnecting piping and transfer pumps for DGF and MPPE units.	January 31, 2012
8. Complete connection of the storm water management system to the new Waste Water Treatment System and commission and Start-Up of DGF and MPPE units.	February 29, 2012
9. End of system startup grace period for achievement of all discharge limits as required by the CAFO.	May 31, 2012

[2] Such measures shall not be construed to limit the authority of the NMED with respect to corrective action at any solid waste management unit or area of concern at Respondent's facility.

Attachment A, DGF System Maintenance Information

The following information regarding DGF system maintenance was provided by:

Traitements des eaux POSEÏDON Inc.
Suite 310, 1290 Van Horne Avenue, Montréal QC Canada H2V 4S2
Tel. 514-270-9593, Fax. 514-270-9355, Gen. E-mail: info@poseidoninc.com, Web: poseidoninc.com

The need for maintenance will mainly come from mechanical components. The skimming device and its motor reducer require little maintenance. The Poseipump[1] requires the same maintenance as a typical centrifugal pump; i.e., replacement of the mechanical seal approximately once per year. In addition, there is a rotary joint on the shaft of the Poseipump that brings the flotation gas to the pump. It requires replacement approximately once or twice per year.

The units are built in stainless steel and there are no mechanical components below water level. All of the mechanical components that need attention are accessible from outside the unit and will not need down time for maintenance. They are the skimming device (inside the unit but above the water level) and its motor reducer (outside the unit), the recirculation/gas dissolution Poseipump and its motor. Some shelf spares and an installed Poseipump will offset the need for down time.

We estimate that it would be good practice to inspect and clean the unit during planned turnarounds. A typical DGF outage is simple and provision should be made for: complete skimming of the float, opening the cover hatch, draining of the water, removal of the cover (with a crane), cleaning the inside of the unit (with water hoses), re-installation of the cover with new seal and filling the unit with clean water. This can be done within one day for the Saturn model.

Since our units are built in stainless steel, since there are no mechanical components below water level, and since we use only the most dependable components (such as motor-reducers instead of chains and sprockets, etc.), operation reliability is improved and maintenance is significantly reduced. Therefore, it is possible to treat the entire wastewater stream on a continuous basis with a single DGF unit and with reliability. We have DGF units that have been in operation since late 2003, that have been open only once during a planned turnaround in 2006 (for preventive inspection and cleaning) and that have been operating without any interruption since then.

[1] The Poseipump provide dissolution of the flotation gas through pressurized recycle stream. It's the DGF recycle pump.

Attachment B, MPPE System Maintenance Information

The following information regarding MPPE system maintenance was provided by Whittier Filtration:

Although the unit is designed to run automatically and unmanned, the unit should be inspected daily. Normal maintenance will include inspecting and/or replacing pump seals and valve seats. This should be done on an annual basis. The instruments should be checked and/or recalibrated semiannually. Pressure relief valves should be checked on a monthly basis to ensure safety. If found to be leaking or damaged, they should be replaced.

The performance is guaranteed for the operational lifetime of the unit. The media is designed to last between one and two years. When the media effectiveness decreases below a predetermined value, the media will need to be exchanged. This is determined by periodic effluent sampling. The exchange service is provided by Whittier Filtration as part of the performance guarantee. The exchange will take between four and eight hours. As part of the operating parameters, the media is steam stripped with low pressure steam every hour. This will remove the extracted hydrocarbons from the media as well as protecting the media from organic fouling.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, June 02, 2011 6:56 AM
To: 'Riege, Ed'
Subject: Gallup Refinery (GW-032) Discharge Permit Renewal

Ed:

Good morning. I had given you advanced notice that the OCD discharge permits were in a transition and OCD is now moving forward based on our new OCD Director and Attorney recommendations to the Environmental Bureau. Basically, we are separating out all non-WQCC systems from the OCD WQCC Permit Process. Operators will need to submit applications based on the OCD Regulations that pertain to OCD systems at the refinery, i.e., ponds, below-grade tanks, landfarms, etc. will require separate forms submittal based on the regulation that applies.

The OCD is currently reviewing your response to the OCD most recent "Administratively Incomplete" determination. I plan to complete my review for an "Administratively Complete" determination by the end of next week In the interim, I will be working off a new OCD WQCC draft permit template that may only include the ground water abatement or any discharge location to surface, ground and/or ground water (i.e., ground water abatement). You may want to look over the 20.6.2.3114 Table 1 Fees for this type of discharge permit.

Western will need to submit application forms for all non-WQCC or oil and gas regulated systems at your refinery, i.e., evaporation ponds under Rule 36 (Surface Waste Management Facility) and applicable Form submittal by date certain.

Please contact me to communicate on this matter or if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Western Refining
GALLUP

WNR LISTED NYSE

Certified Mail
70100290000277354766(Chavez)
70100290000277353356(Van Horn)

June 6, 2011

RECEIVED OCD
2011 JUN -7 A 11:56

Carl Chavez, Environmental Engineer
Oil Conservation Division
1220 S. Saint Francis
Santa Fe, NM 87505

Kristen Van Horn, Environmental Specialist
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505

Re: 2010 OCD Discharge Plan Renewal Application

Dear Mr. Chavez and Ms. Van Horn:

Western Refining Southwest, Inc. – Gallup Refinery has received an updated Stratigraphy and Potentiometric Map for inclusion in the above referenced application. Sections E and Section F respectively, which was not included in the original application.

If you have any questions regarding the figures, please contact me at (505) 722-0231

Sincerely,

Cheryl Johnson
Environmental Specialist
(505) 722-0231
cheryl.johnson@wnr.com
cc: Ed Riege, Environmental Manager

Chavez, Carl J, EMNRD

From: Johnson, Cheryl [Cheryl.Johnson@wnr.com]
Sent: Wednesday, May 11, 2011 7:18 AM
To: Chavez, Carl J, EMNRD
Subject: Appendix A-B
Attachments: APPENDIX A-B 5-11-11.pdf

Appendix A-B attached

Cheryl Johnson
Environmental Specialist

Western Refining - Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
505 722 0231 Direct
505 722 0210 Fax
505 722 3833 Main
cheryl.johnson@wnr.com

From: Riege, Ed
Sent: Wednesday, May 11, 2011 7:01 AM
To: Chavez, Carl J, EMNRD; Johnson, Cheryl
Subject: RE: third email with response

Cheryl will split it and try again.

thanks

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 11, 2011 6:57 AM
To: Riege, Ed
Subject: RE: third email with response

Ed:

No, I didn't receive it. Thx. Our ISP cutoff must have been exceeded.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau

1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 11, 2011 6:56 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: RE: third email with response

Did you receive the second one this morning with the Appendix?

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 11, 2011 6:49 AM
To: Riege, Ed
Cc: Johnson, Cheryl
Subject: RE: third email with response

Received. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 11, 2011 6:47 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: FW: third email with response

Third and final

Ed Riege
Environmental Manager

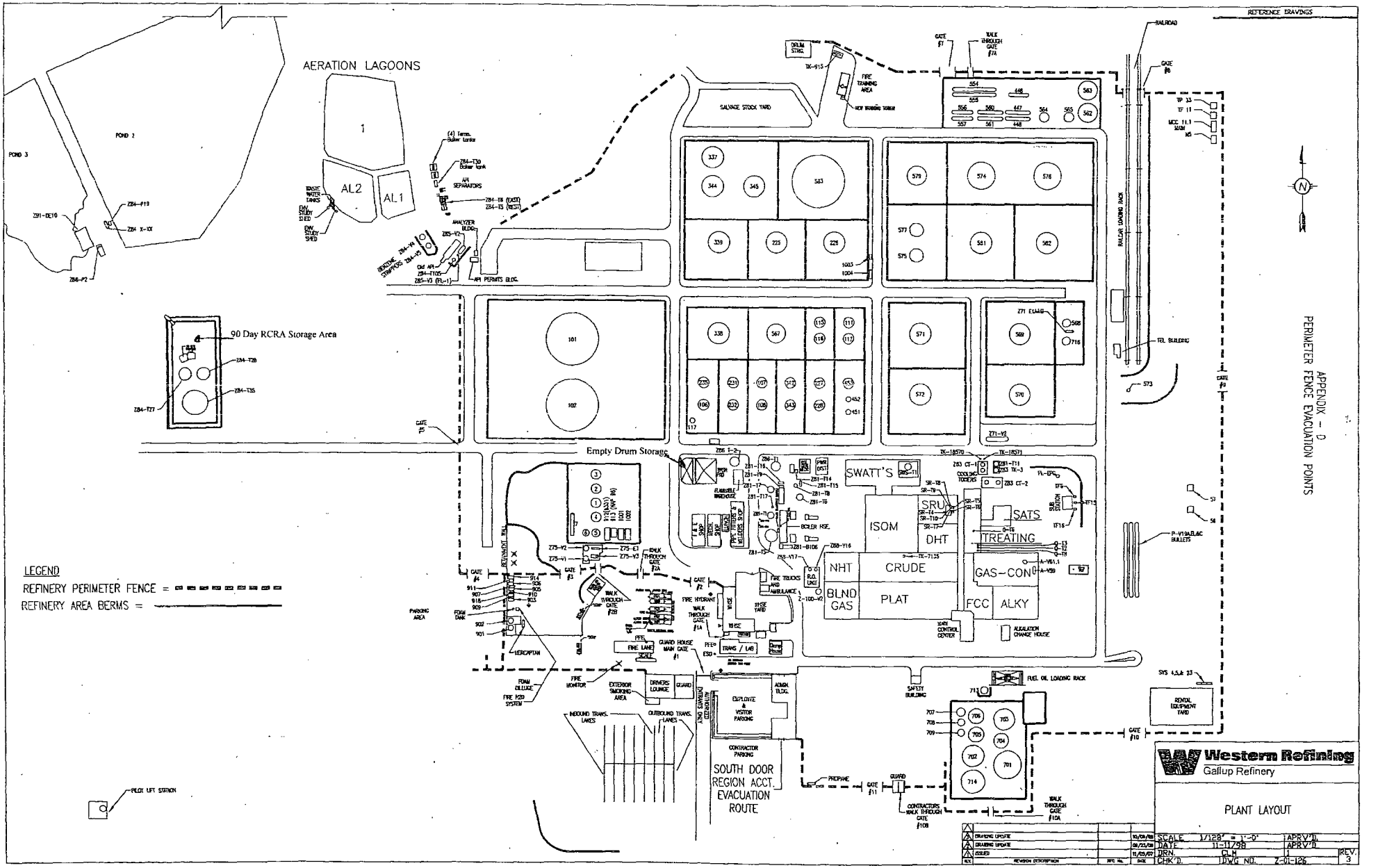
Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

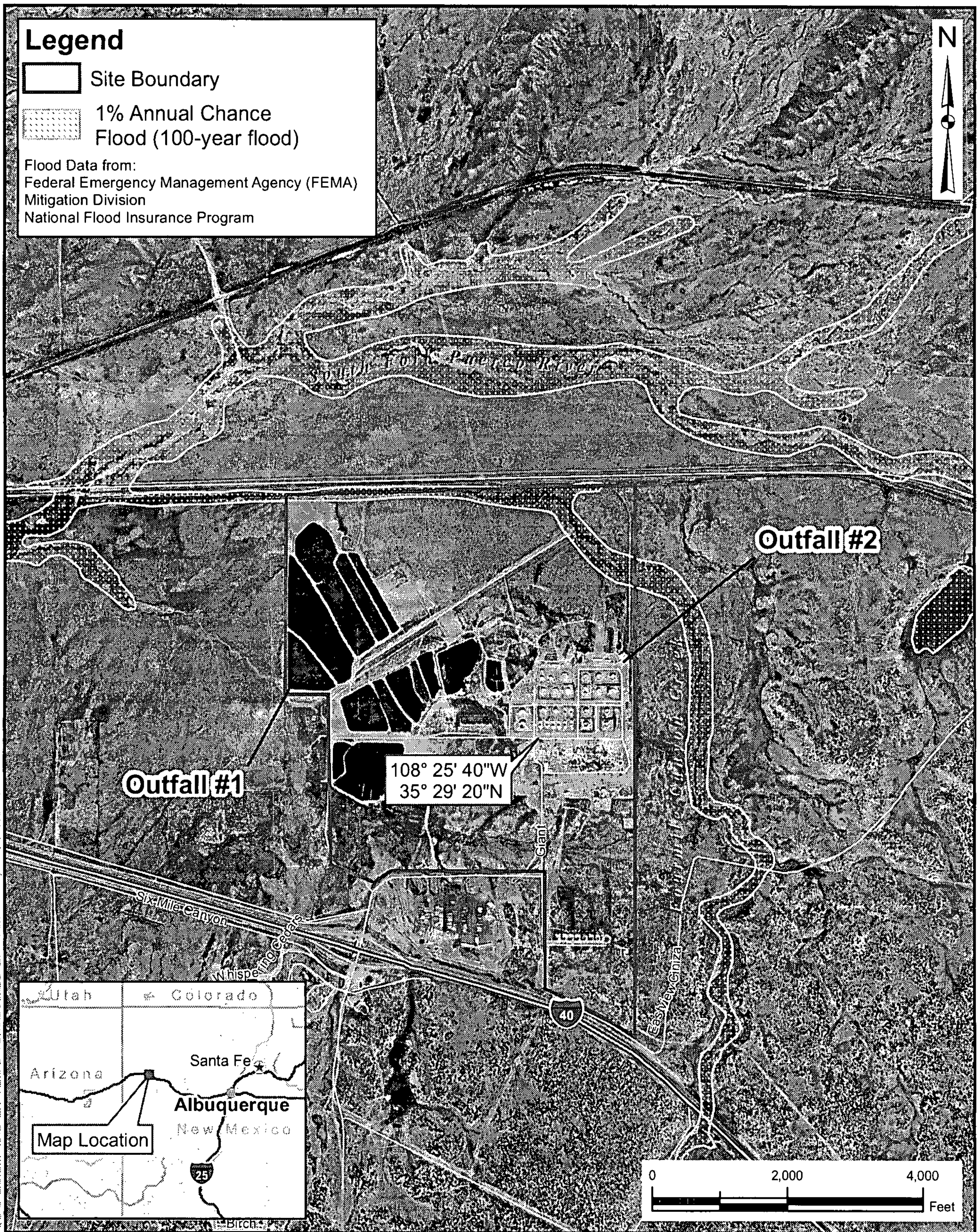
From: Riege, Ed
Sent: Friday, May 06, 2011 2:59 PM
To: Chavez, Carl J, EMNRD
Cc: Larsen, Thurman
Subject: Second email with response

Second email

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com


APPENDIX - D
PERIMETER FENCE EVACUATION POINTS
REFERENCE DRAWINGS
AERATION LAGOONS
POND 2
POND 3
AL2
AL1
90 Day RCRA Storage Area
Empty Drum Storage
SALVAGE STOCK YARD
FIRE TRAINING AREA
RAILROAD
RAILCAR LOADING RACK
FEL BUILDING
SWATT'S
ISOM
SRU
SATS
DHT
TREATING
NHT
CRUDE
GAS-CON
BLND GAS
PLAT
FCC
ALKY
MAIN CONTROL CENTER
AMULATION CHANGE HOUSE
FIRE TRUCKS AND AMBULANCE
GUARD HOUSE MAIN GATE #1
FIRE LANE
SCALE
TRANS / LAB
MERCAPTAN
FOAM DELUGE
FIRE H2O SYSTEM
FIRE MONITOR
EXTERIOR SMOKING AREA
DRIVERS LOUNGE
GUARD
ADMIN. BLDG.
EMPLOYEE & VISITOR PARKING
CONTRACTOR PARKING
INBOUND TRANS. LANES
OUTBOUND TRANS. LANES
SOUTH DOOR REGION ACCT. EVACUATION ROUTE
SAFETY BUILDING
FUEL OIL LOADING RACK
PROPANE
GUARD
CONTRACTORS WALK THROUGH GATE #10B
WALK THROUGH GATE #10A
GATE #10
GATE #11
PILOT LIFT STATION
LEGEND
REFINERY PERIMETER FENCE =
REFINERY AREA BERMS =
Western Refining
Gallup Refinery
PLANT LAYOUT
SCALE 1/128" = 1'-0"
DATE 11-11-98
DRN. CLM
CHK'D.
DWG NO. Z-01-126
REV. 3
APRV'D.
APRV'D.
DRAWING UPDATE 10/09/98
DRAWING UPDATE 09/25/98
ISSUED 11/03/97



JOB NO.	08-115-05023
PM:	CW
DATE:	12/19/2008
SCALE:	1" = 2000'
PROJ.:	NAD83 SP NM W

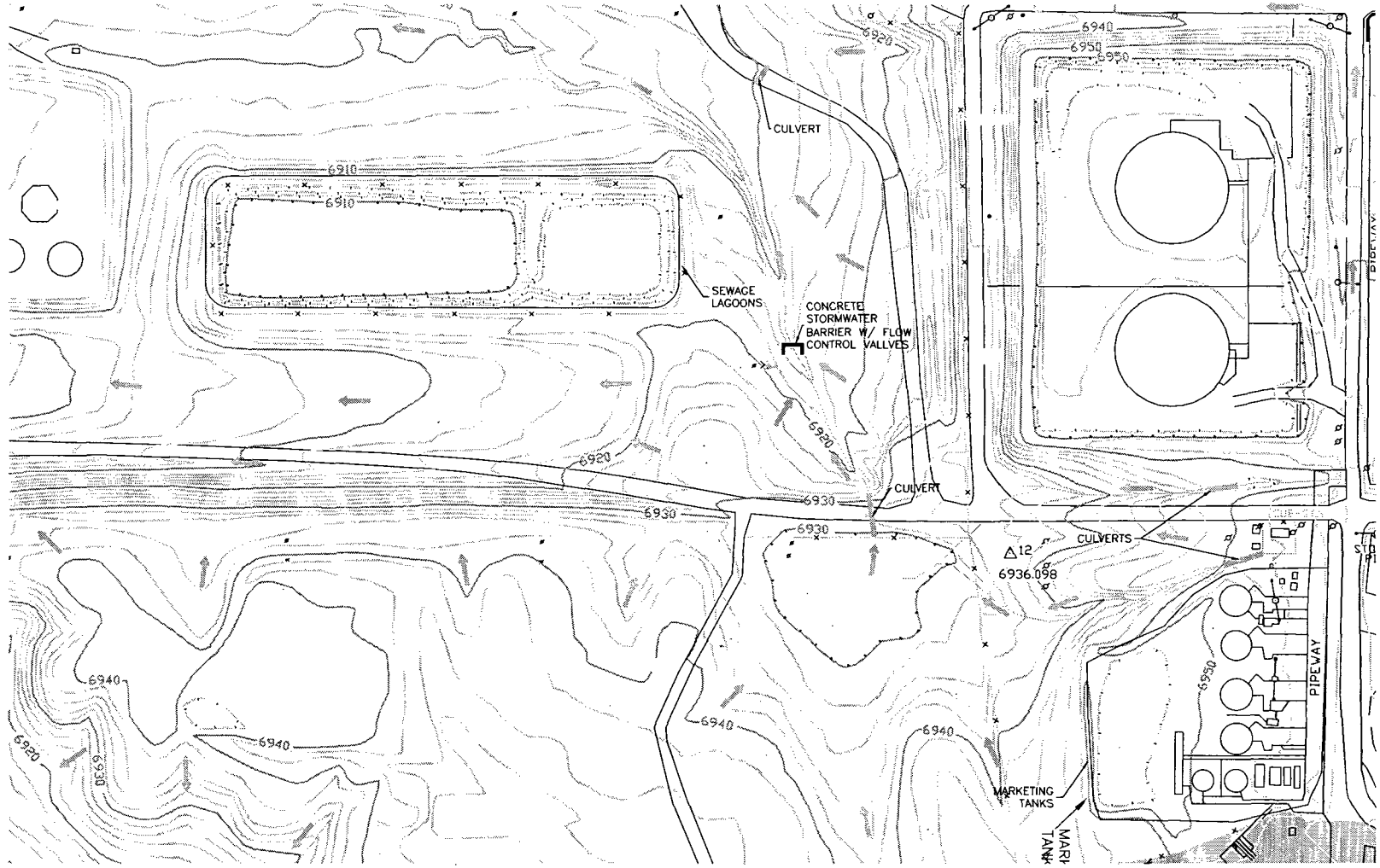
The map shown here has been created with all due and reasonable care and is strictly for use with AMEC Project Number: 0811505023. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind as AMEC assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Stormwater Pollution Prevention Plan (SWPPP)
Site Vicinity Map

Western Refining - Gallup Refinery
I-40 Exit 39, Route 3 Box 7
Gallup, NM 87301

FIGURE
A

amec



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CONTOUR INTERVAL 2 FT.

Rev	Description	BY	Date
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2	FINAL ISSUE		1/9/08
1	DRAFT ISSUE TO CLIENT		12/16/05

REVISIONS

Scale: 1" = 100'
Designed by: LAL/JM
Drawn by: LAL
Checked by: AMEC
Approved by:

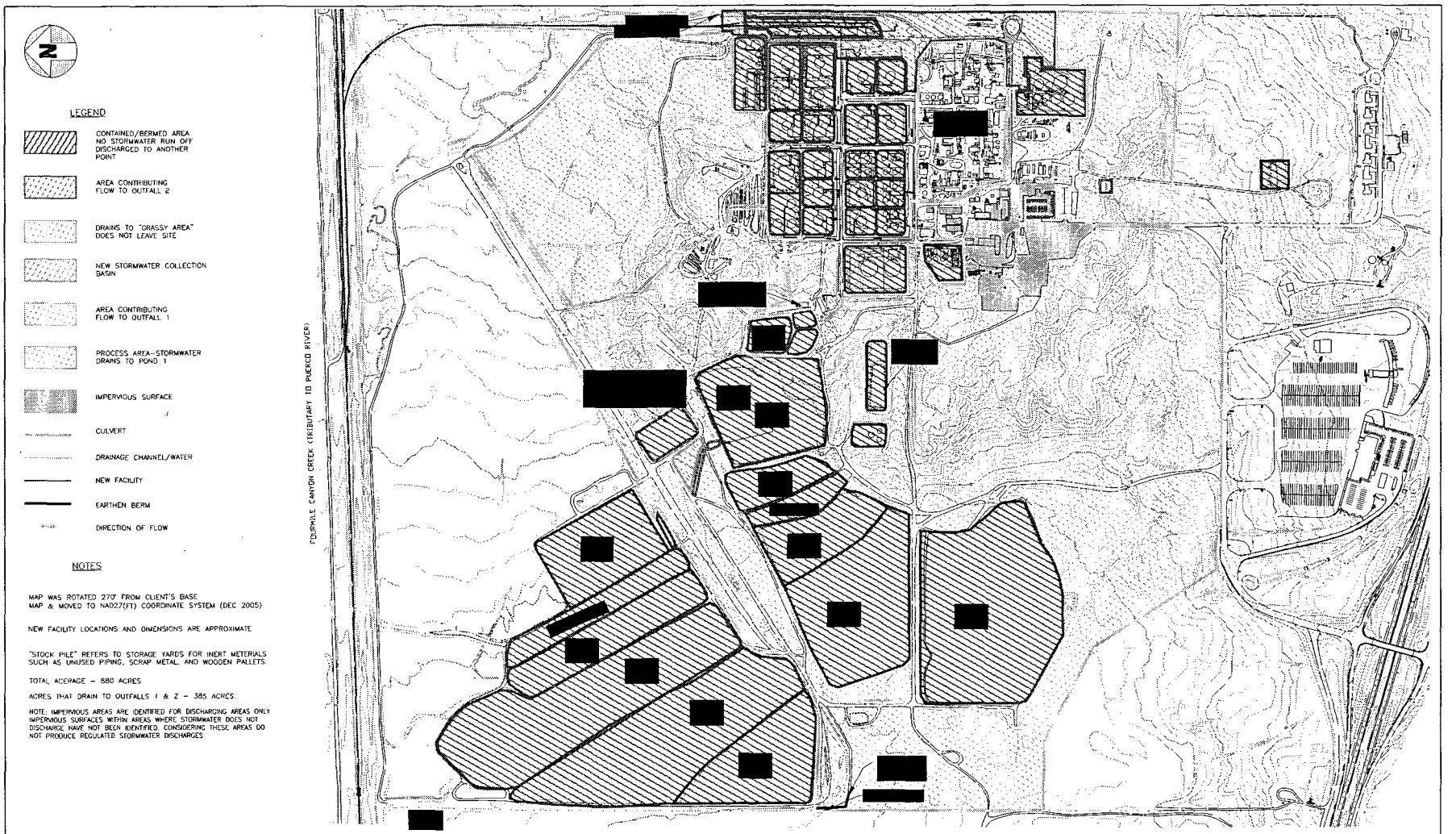
Issued for: Western Refining

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

Title: STORMWATER CONTROLS OUTFALL 1 MARKETING TANKS GALLUP REFINERY

2 REVISION

Project: SWPPP GALLUP REFINERY
Project no.: 0811505023
Location: GALLUP, NEW MEXICO
Date: 1/9/05
FIGURE 9
SHEET 9 OF 12



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CONTOUR INTERVAL 2 FT.

Rev	Description	BY	Date
	REVISIONS		
5	REVISED FOR 2008 MSGP		12/18/08
4	FINAL ISSUE		1/9/06
3	DRAFT ISSUE TO CLIENT		12/16/05
2			
1			

Scale: 1"=300'
Designed by: LAL/JM
Drawn by: DB
Checked by: AMEC
Approved by:

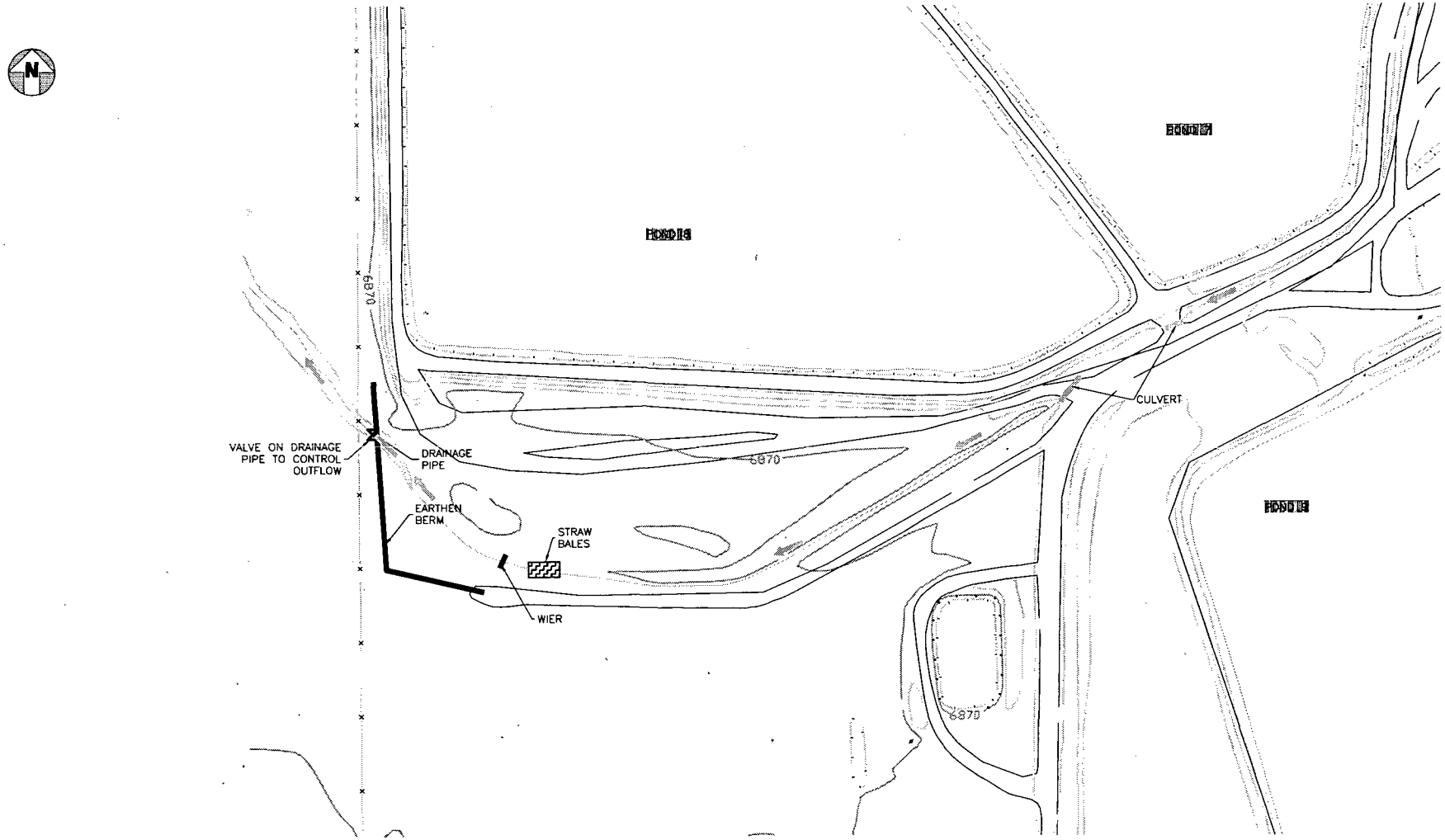
Issued for:
Western Refining

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: SWPP GALLUP REFINERY
Project No.: 0811505023
FIGURE 8
Location: GALLUP, NEW MEXICO
Date: 1/9/06
3 SHEET 3 OF 12



SCALE

100' 0 100' 200'

CONTOUR INTERVAL 2 FT.

Rev	Description	BY	Date
2	REVISED FOR 2008 MSGP		12/18/08
1	FINAL ISSUE		1/9/06
0	DRAFT ISSUE TO CLIENT		12/18/06

REVISIONS

Scale: 1" = 100'
Designed by: LAL/JM
Drawn by: LAL
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 CONTROLS
OUTFALL 1
GALLUP REFINERY

2 REVISION

Project: SWPPP GALLUP REFINERY

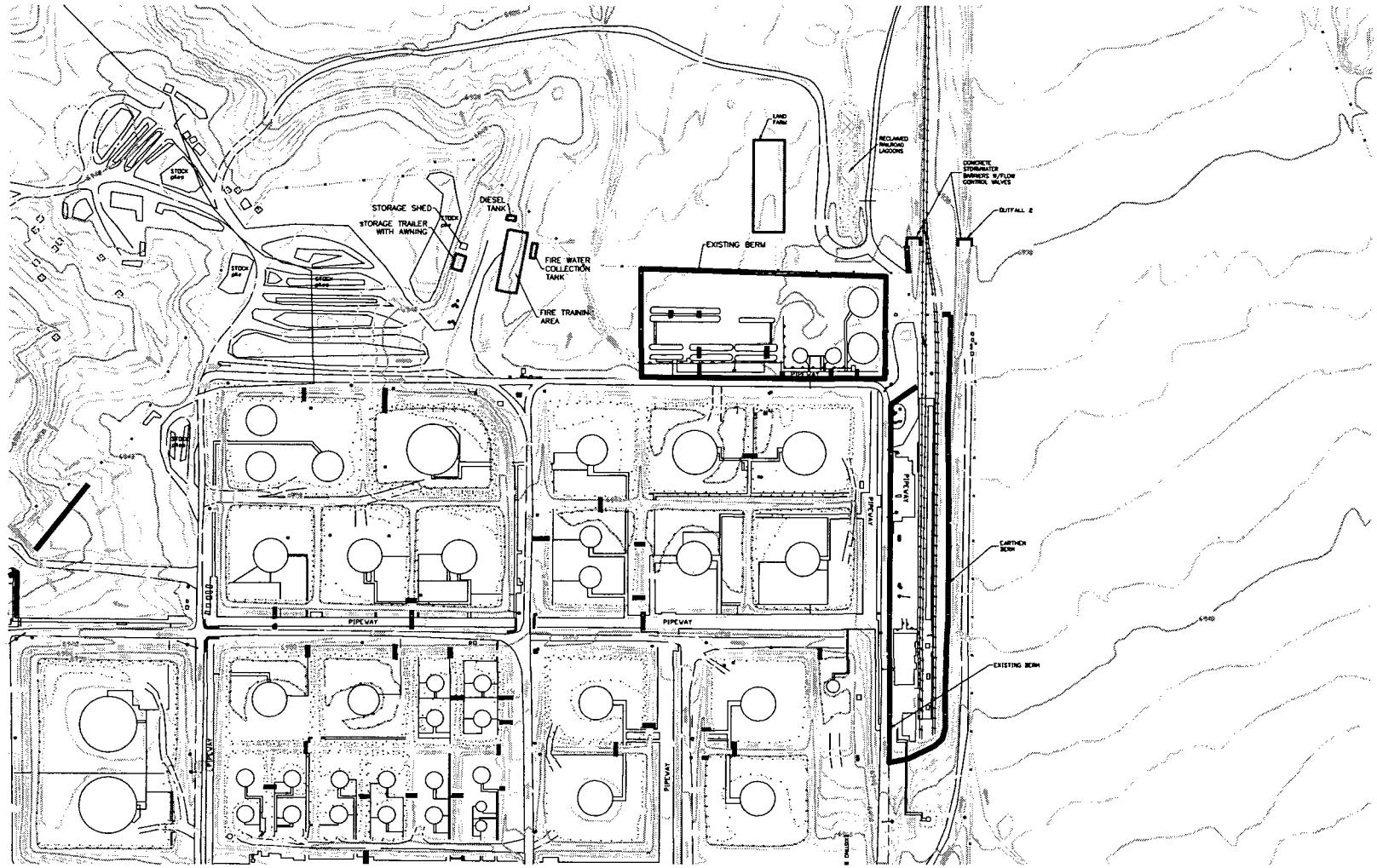
Project no.: 0811505023

Location: GALLUP, NEW MEXICO

Date: 1/9/06

FIGURE 8

12
SHEET
12 OF 12



SCALE

200' 0 200' 400'

CONTOUR INTERVAL 2 FT.

Rev	Description	BY	Date
4	REVISED FOR 2008 MSGP		12/18/08
3	FINAL ISSUE		1/9/06
2	DRAFT ISSUE TO CLIENT		12/18/05

REVISIONS

Scale: 1"=200'
Designed by: LAL/JM
Drawn by: LAL
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 CONTROLS
GRASSY AREA/OUTFALL 2
RAILYARD/FIRE TRAINING AREA
GALLUP REFINERY

2 REVISION

Project: SWPPP GALLUP REFINERY
Project no.: 0811505023
FIGURE 8
Location: GALLUP, NEW MEXICO
Date: 1/9/06
SHEET 6 OF 12

Appendix B - Table 6.1 Materials Stored in Atmospheric Storage Tanks

Table 6.1 Materials Stored in Atmospheric Storage Tanks				
TANK NUMBER	**YEAR BUILT**	**APPROX. CAPACITY (BBLS)**	**PRODUCT**	**LOCATION**
TK-1	1965	3,000	DIESEL	Marketing Tank Area
TK-2	1965	4,000	UNLEADED PREMUM	Marketing Tank Area
TK-3	1965	4,000	87.0 OCTANE	Marketing Tank Area
TK-4	1970	3,800	83.0 OCTANE	Marketing Tank Area
TK-5	1963	1,800	ETHANOL	Marketing Tank Area
TK-6	1963	1,800	LT STRAIGHT RUN	Marketing Tank Area
TK-7	1946	330	ISOMERATE	Marketing Tank Area
TK-101	1957	80,000	CRUDE	Main Tank Farm
TK-102	1991	80,000	CRUDE	Main Tank Farm
TK-106	1957	5,000	TRANSMIX	Main Tank Farm
TK-107	1957	5,000	SLOP OIL	Main Tank Farm
TK-108	1957	5,000	ALKLATE	Main Tank Farm
TK-111	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-112	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-115	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-116	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-117	1983	250	OUT OF SERVICE (De-Icer)	Main Tank Farm
TK-225	1957	25,000	DISTILLATE	Main Tank Farm
TK-226	1957	25,000	KERSOSENE	Main Tank Farm
TK-227	1957	5,000	K-1	Main Tank Farm
TK-228	1957	5,000	K-1	Main Tank Farm
TK-231	1957	5,000	TRANSMIX	Main Tank Farm
TK-232	1957	5,000	TRANSMIX	Main Tank Farm

Table 6.1 Materials Stored in Atmospheric Storage Tanks – continued

TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-235	1957	5,000	TRANSMIX	Main Tank Farm
TK-337	1977	20,000	ETHANOL	Main Tank Farm
TK-338	1964	25,000	SWEET NAPHTHA	Main Tank Farm
TK-339	1957	25,000	SOUR NAPHTHA	Main Tank Farm
TK-342	1957	5,000	ETHANOL	Main Tank Farm
TK-343	1957	5,000	ETHANOL	Main Tank Farm
TK-344	1977	20,000	REFORMATE	Main Tank Farm
TK-345	1977	20,000	REFORMATE/ETOH	Main Tank Farm
TK-446	1945	700	OLEFINS/ISO BUTANE	Bullet Tank
TK-447	1957	1,373	ISO-BUTANE	Bullet Tank
TK-448	1957	1,373	ISO-BUTANE	Bullet Tank
TK-451	1957	1,000	OUT OF SERVICE	Main Tank Farm
TK-452	1957	1,000	OUT OF SERVICE	Main Tank Farm
TK-453	1957	5,000	OUT OF SERVICE	Main Tank Farm
TK-554	1974	2,073	BUTANE/PROPANE	Bullet Tank
TK-555	1974	2,073	ISO-BUTANE	Bullet Tank
TK-556	1957	718	PROPANE	Bullet Tank
TK-557	1957	718	PROPANE	Bullet Tank
TK-560	1957	2,300	BUTANE	Bullet Tank
TK-561	1957	2,300	BUTANE	Bullet Tank
TK-562	1986	20,000	ISOMERATE	Bullet Tank
TK-563	1986	20,000	NAT. GASOLINE	Bullet Tank
TK-564	1957	5,000	NAT.GASOLINE/ISOMERATE	Bullet Tank
TK-565	1957	5,000	ISOM/NAT GASO/TOL	Bullet Tank
TK-567	1969	20,000	UNLD. REG.	Main Tank Farm

Table 6.1 Materials Stored in Atmospheric Storage Tanks – continued

TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-568	1998	2,000	AMMONIUM THIOSULFATE	Main Tank Farm
TK-569	1957	25,000	83.O UNLD. REG.	Main Tank Farm
TK-570	1957	25,000	87.0 UNLD REG.	Main Tank Farm
TK-571	1957	25,000	87.0 UNLD REG.	Main Tank Farm
TK-572	1957	25,000	87.0 UNLD REG.	Main Tank Farm
TK-573	1957	250	OUT OF SERVICE (Kerosene)	Main Tank Farm
TK-574	1968	40,000	ST.RUN	Main Tank Farm
TK-575	1957	10,000	JET-A/K1	Main Tank Farm
TK-576	1968	40,000	PREMUM BASE	Main Tank Farm
TK-577	1957	10,000	DIESEL	Main Tank Farm
TK-579	1957	20,000	DIESEL	Main Tank Farm
TK-581	1957	25,000	LCO	Main Tank Farm
TK-582	1957	25,000	UNLEADED PREMUM	Main Tank Farm
TK-583	1996	55,000	DIESEL	Main Tank Farm
TK-701	1963	37,000	FCC FEED	Hot Oil Tank Farm
TK-702	1963	25,000	FCC FEED	Hot Oil Tank Farm
TK-703	1963	25,000	RESIDUE/FCC FEED	Hot Oil Tank Farm
TK-704	1963	10,000	FUEL OIL	Hot Oil Tank Farm
TK-705	1963	10,000	FUEL OIL	Hot Oil Tank Farm
TK-706	1963	10,000	FUEL OIL	Hot Oil Tank Farm
TK-707	1963	1,000	SLOP OIL	Hot Oil Tank Farm
TK-708	1963	1,000	Residue	Hot Oil Tank Farm
TK-709	1963	1,000	RESIDUE	Hot Oil Tank Farm
TK-713		1,000	OUT OF SERVICE	Hot Oil Tank Farm

Table 6.1 Materials Stored in Atmospheric Storage Tanks – continued

TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-714	1969	30,000	FCC FEED	Hot Oil Tank Farm
TK-27	1979	5,000	PROCESS/ STORM WATER	West of Tank 101/102
TK-28	1979	5,000	PROCESS/ STORM WATER	West of Tank 101/102
TK-35	2010	30,000	PROCESS/ STORM WATER	West of Tank 101/102
Z71-TK-716	2006	997	AMMONIUM THIOSULFATE	Main Tank Farm

Appendix B

Table 6.2 Materials Stored in Pressurized Storage Tanks

TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-446	1945	700	OLEFINS/ISO BUTANE	Bullet Tank
TK-447	1957	1,373	ISO-BUTANE	Bullet Tank
TK-448	1957	1,373	ISO-BUTANE	Bullet Tank
TK-554	1974	2,073	BUTANE/PROPANE	Bullet Tank
TK-555	1974	2,073	ISO-BUTANE	Bullet Tank
TK-556	1957	718	PROPANE	Bullet Tank
TK-557	1957	718	PROPANE	Bullet Tank
TK-560	1957	2,300	BUTANE	Bullet Tank
TK-561	1957	2,300	BUTANE	Bullet Tank
TK-562	1986	20,000	ISOMERATE	Bullet Tank
TK-563	1986	20,000	NAT. GASOLINE	Bullet Tank
TK-564	1957	5,000	NAT.GASOLINE/ISOMERATE	Bullet Tank
TK-565	1957	5,000	ISOM/NAT GAS/TOL	Bullet Tank

Appendix B

TABLE 6.3 Other Materials Stored at the Refinery

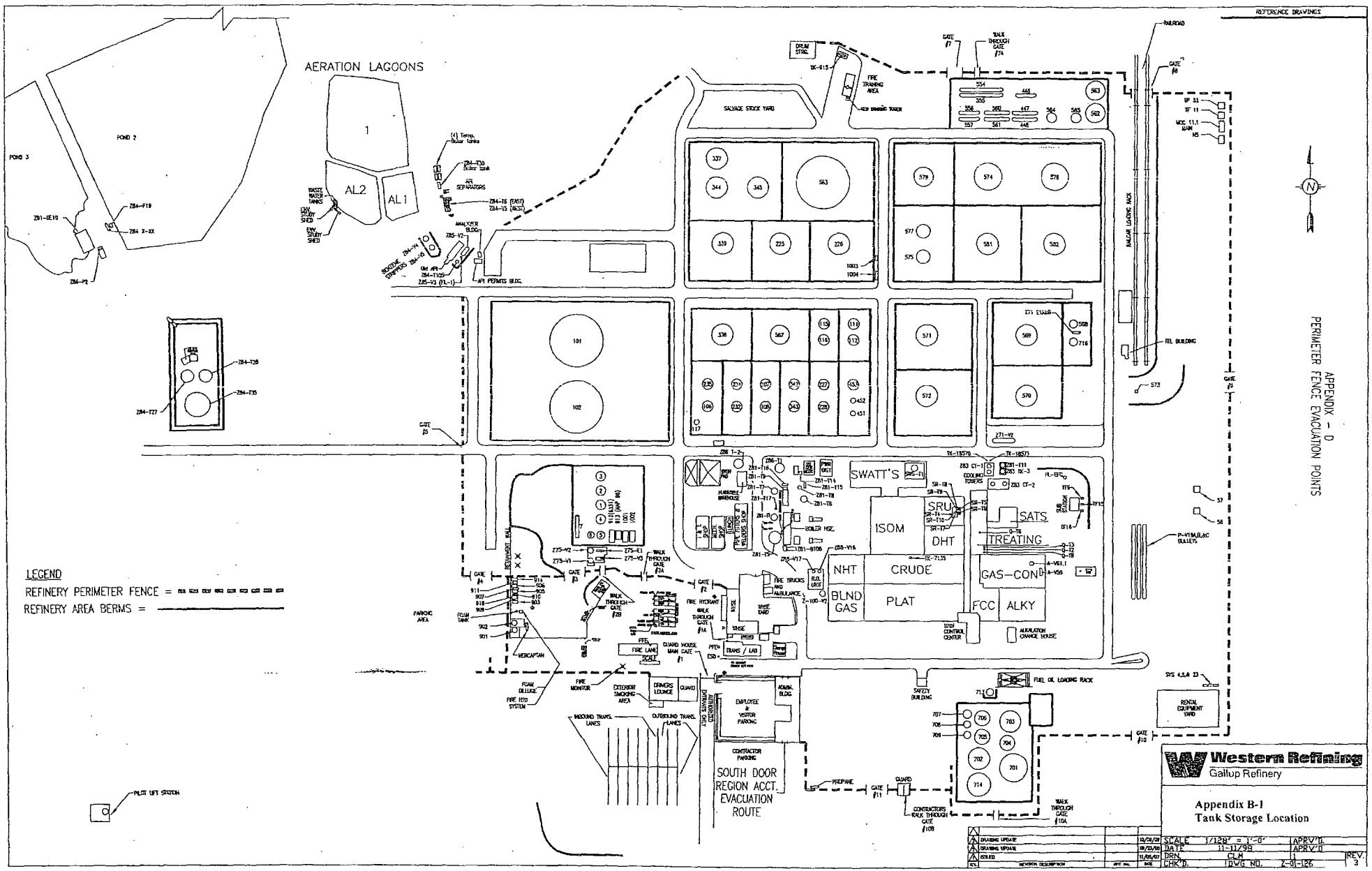
PRODUCT	MAXIMUM VOLUME	LOCATION
Antifreeze	14 – 55 gal drums	Warehouse Yard/Process Area
Ethylene Glycol	6 – 350 gallon totes	Sats Unit/Warehouse Yard
Z Seal (Ethylene glycol)	10 – 55 gallon drums	Vapor Recovery Unit/Whse Yard
Automatic Transmission Fluid	8 – 55 gallon drums	WarehouseYard/ Process area
Engine Oil	10 – 55 gallon drums	WarehouseYard/ Process area
Turbine Oil	40 – 55 gallon drums	WarehouseYard/ Process area
Hydraulic Fluid	6 – 55 gallon drums	WarehouseYard/ Process area
Gear Oil	14 – 55 gallon drums	WarehouseYard/ Process area
Transformer Oil	10 – 55 gallon drums	WarehouseYard/ Process area
Grease	>100 – 14 oz tubes	WarehouseYard/ Process area
Spindle Oil	4 – 55 gallon drums	WarehouseYard/ Process area
Lube Oil	2 - 1000 gallon bulk tank	Gas Con & Plat Compressor area
Lube Oil	4 – 55 gallon drums	Warehouse Yard/Process area
80 Octane Additive	4 – 55 gallon drums	Warehouse Yard/Lab Storage
Iso Octane	2 - 55 gallon drums	Warehouse Yard/Lab Storage
Heptane	2 - 5 gallon bucket	Lab Storage
Methanol	4 - 55 gallon drums	Warehouse Yard/Process/Lab
Isopropyl Alcohol	2 – 55 gallon drums	Warehouse Yard/Plat Unit/Lab
Isopropyl Alcohol	4 – 350 gallon totes	Warehouse Yard/Plat Unit
Perchloroethylene	4 – 55 gallon drums	Warehouse Yard/Plat Unit
Salt	100 – 50# sacks	Warehouse Yard
Salt	15 – 2000# supersacks	Warehouse Yard/Treater Area
Salt	100,000 bulk storage	Boiler Area

Appendix B
TABLE 6.3 Other Materials Stored at the Refinery – continued

PRODUCT	MAXIMUM VOLUME	LOCATION
Neutralizing Amine	2 – 200 gallon totes	Warehouse Yard/Crude
Corrosion Inhibitor	4 - 200 gallon bulk tank	Warehouse Yard/Gas Con/Alky/ CWT
Towerbrom 960	3 - 500 gallon totes	Warehouse Yard/CWT
Oxygen Scavenger	4 – 200 gallon totes	Warehouse Yard/CWT/BH
Antifoulant	2 – 200 gallon totes	Warehouse Yard/Crude
H2S Scavenger	2 – 400 gallon totes	Warehouse Yard/Treater
Amine Solution	2 – 200 gallon totes	Warehouse Yard/SWAATS
Boiler Phosphate	2 – 200 gallon totes	Warehouse Yard/BH
Sulfite	2 – 200 gallon totes	Warehouse Yard/BH
Bleach	4 – 30 gallon drums	Warehouse Yard/CWT
Bromine	2 – 500 gallon totes	Warehouse Yard/CWT
Sulfuric Acid	50,000 lb bulk storage	CWT
Caustic Soda	50,000 lb bulk storage	BH/Treater/Flare
Caustic Soda	21,000 gallons bulk storage	Flare KO Area
Hydrofluoric Acid	50,000 lb bulk storage	Alkylation Unit
Potassium Hydroxide	5 – 300 gallon totes	Warehouse Yard/Alky Unit
Potassium Hydroxide	20 tons bulk storage	Alky Unit/Sats
Potassium Hydroxide	6 – 2000 lb super sacks	Alky Unit/Warehouse Yard
Sodium Carbonate	60 – 55 lb bags	Warehouse Yard/Alky Unit
Anti-Foam	10 gallons	Warehouse Yard/SATS Unit
Methanol	2 – 345 gallon totes	Warehouse Yard/SATS/Fuel Gas
Ammonium Thiosulfate	1 – 300 gallon tote	Sulfur Recovery Unit
Iron Chelate Mixture	2 – 3500 gallon bulk tank	Sulfur Recovery Unit
Merox	12 – 1 gallon Container	Warehouse/Treater Unit
Promoter	2 – 400 lb drum	Flammable Warehouse/FCC Unit
Stabilizing Amine	500 gallon bulk tank	FCC Unit

Appendix B
TABLE 6.3 Other Materials Stored at the Refinery - continued

PRODUCT	MAXIMUM VOLUME	LOCATION
Xylene (Red Dye)	2 – 330 gallon bulk tank	Warehouse Yard/Loading Rack
Lubricity	4500 gallon bulk tank	Loading Rack/East of T-226
Ethyl Mercaptan	2,000 lb bulk tank	Loading Rack/Rail Road Rack
Pour Point Disperssant	2000 gallon bulk tank	Tank Farm east of T-226
Anti-Static	2 - 500 gallon totes	Warehouse Yard/Tank Farm
DGS-105	3 - 500 gallon totes	Warehouse Yard/Tank Farm
Zep Soap	10 - 55 gallon drums	Warehouse Yard/Process
Activated Carbon	3000 lbs	Warehouse Yard/Amine
Tri-Sodium Phosphate	35 - 40 lb sacks	Warehouse Yard/Process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POND 2
POND 3
AL1
AL2
SALVAGE STOCK YARD
FIRE TRAINING AREA
RAILROAD
RAILCAR LOADING RACK
SWATT'S
ISOM
SRU
SATS
DHT
TREATING
NHT
CRUDE
GAS-CON
BLND GAS
PLAT
FCC
ALKY
SOUTH DOOR REGION ACCT. EVACUATION ROUTE
FUEL OIL LOADING RACK
SAFETY BUILDING
RENTAL EQUIPMENT YARD
LEGEND
REFINERY PERIMETER FENCE =
REFINERY AREA BERMS =
PILOT LIFT STATION
REFERENCE DRAWINGS
APPENDIX - D
PERIMETER FENCE EVACUATION POINTS
Western Refining
Gallup Refinery
Appendix B-1
Tank Storage Location
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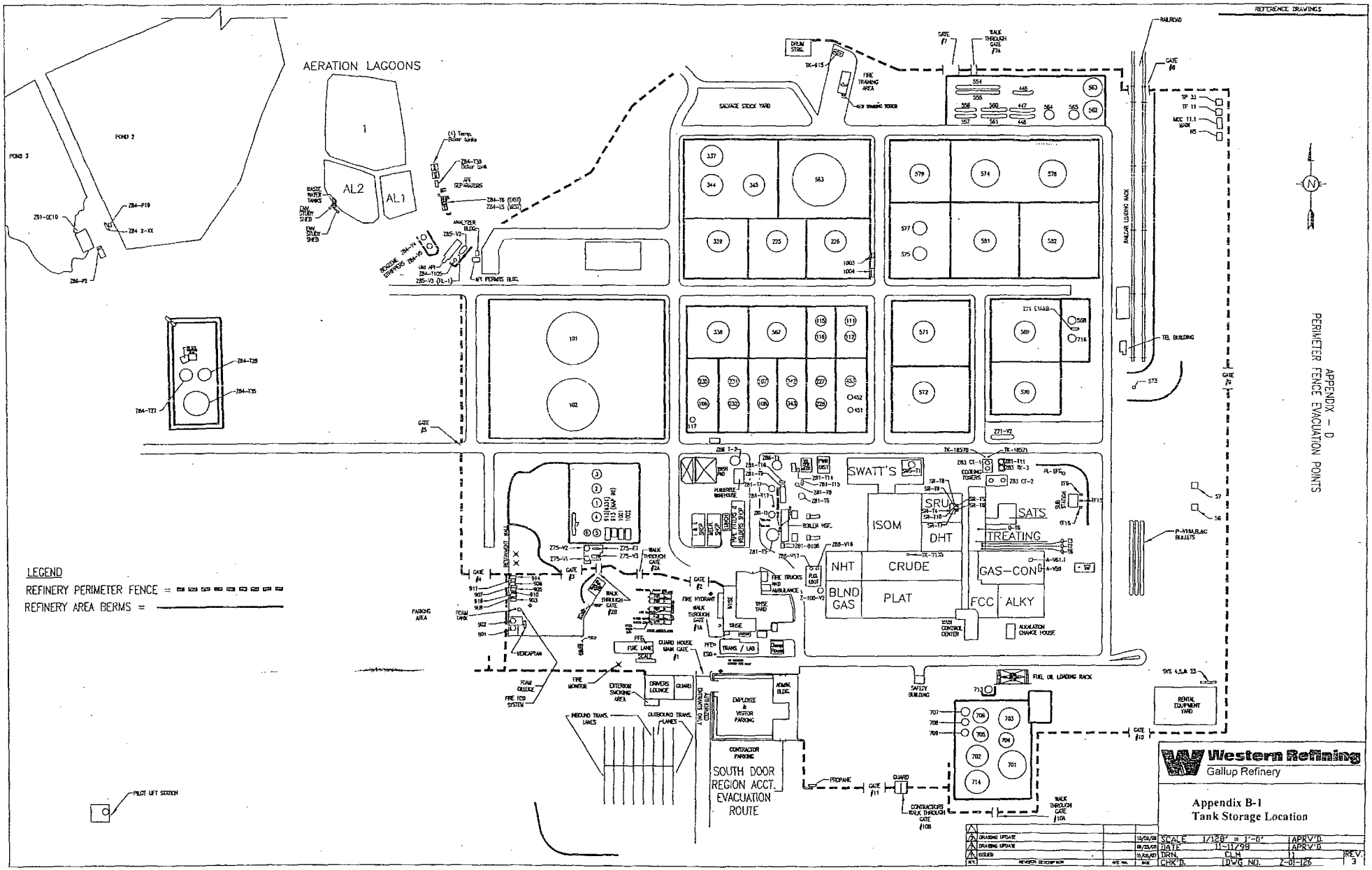
DATE 11-11/98
DRN. CLM
CHK'D.
DWG NO. Z-01-126
REV. 3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POND 2
POND 3
AL2
AL1
1
SALVAGE STOCK YARD
FIRE TRAINING AREA
RAILROAD
RAILCAR LOADING RACK
TEL BUILDING
SWATT'S
ISOM
SRU
SATS
DHT
TREATING
NHT
CRUDE
GAS-CON
BLND GAS
PLAT
FCC
ALKY
SOUTH DOOR REGION ACCT. EVACUATION ROUTE
CONTRACTOR PARKING
EMPLOYEE & VISITOR PARKING
SAFETY BUILDING
FUEL OIL LOADING RACK
RENTAL EQUIPMENT YARD
PILOT LIFT STATION
LEGEND
REFINERY PERIMETER FENCE
REFINERY AREA BERMS
REFERENCE DRAWINGS
APPENDIX - D
PERIMETER FENCE EVACUATION POINTS
Western Refining
Gallup Refinery
Appendix B-1
Tank Storage Location
SCALE 1/128" = 1'-0"
DATE 11-11/99
DRN. CLM
CHK'D.
DWG NO. Z-01-126
REV. 3

Chavez, Carl J, EMNRD

From: Johnson, Cheryl [Cheryl.Johnson@wnr.com]
Sent: Wednesday, May 11, 2011 7:19 AM
To: Chavez, Carl J, EMNRD
Subject: FW: third email with response (Appendix C-G)
Attachments: APPENDIX C-G 5-11-11.pdf

Cheryl Johnson
Environmental Specialist

Western Refining - Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
505 722 0231 Direct
505 722 0210 Fax
505 722 3833 Main
cheryl.johnson@wnr.com

From: Riege, Ed
Sent: Wednesday, May 11, 2011 7:01 AM
To: Chavez, Carl J, EMNRD; Johnson, Cheryl
Subject: RE: third email with response

Cheryl will split it and try again.

thanks

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 11, 2011 6:57 AM
To: Riege, Ed
Subject: RE: third email with response

Ed:

No, I didn't receive it. Thx. Our ISP cutoff must have been exceeded.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 11, 2011 6:56 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: RE: third email with response

Did you receive the second one this morning with the Appendix?

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 11, 2011 6:49 AM
To: Riege, Ed
Cc: Johnson, Cheryl
Subject: RE: third email with response

Received. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 11, 2011 6:47 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: FW: third email with response

Third and final

Ed Riege

Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Riege, Ed
Sent: Friday, May 06, 2011 2:59 PM
To: Chavez, Carl J, EMNRD
Cc: Larsen, Thurman
Subject: Second email with response

Second email

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

Appendix C - Table 1 Ground Water Monitoring Schedule

Table 1
Gallup Refining Company
Ground Water Monitoring Schedule

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
Pilot Effluent	Quarterly (Q)			VOC, DRO extended, GRO, BOD, COD, WQCC Metals
Napis Effluent	Q			Gen Chem, Voc, SVOC(Phenol),DRO extended, GRO,WQCC Metals
AL2 to EP-1	Q			major cations, major anions, VOC, SVOC(Phenol), DRO extended, GRO,WQCC Metals
Influent to AL-1	Q			VOC, BOD, COD, chlorides, DRO extended, GRO, pH, Phenol
Influent to AL-2	Q			VOC, BOD, COD, chlorides, DRO extended, GRO, pH, Phenol
Influent to Evaporation Pond 1	Q			Major cations, major anions, pH, BOD, COD, Chlorides, VOC, SVOC (phenol), DRO extended, GRO, WQCC Metals
NAPI Secondary Containment (3 each)	Q			BTEX, DRO extended, GRO, WQCC Metals or check for fluids
RW-1	Q	X		Measure DTW, DTP
RW-2	Q	X		Measure DTW, DTP
RW-5	Q	X		Measure DTW, DTP
RW-6	Q	X		Measure DTW, DTP
OW-1	Q	X	pH, E.C., DO, ORP, Temp, TDS	Visual check for artesian flow conditons; major cations, major anions, VOC, DRO extended, WQCC Metals
OW-10	Q	X	pH, E.C., DO, ORP, Temp, TDS	Water level measurement of the Sonsela Aquifer water table. Major cations, major anions, VOC, DRO extended, WQCC Metals
OW-13	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-14	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-29	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-30	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-50	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC, SVOC, WQCC Metals (Total & Dissolved), GRO, DRO Extended, Gen Chem
OW0-52	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC, SVOC, WQCC Metals (Total & Dissolved), GRO, DRO Extended, Gen Chem

Notes:
The analyte list for EPA Method 8260 must include MTBE.
(a) NAPIS 1, NAPIS 2, NAPIS 3: Detection of product during quarterly monitoring must comply Section II.F.2 (twenty-four Hour Reporting) of NMED Post-Closure Care Permit
(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method). Parameters are subject to change
WQCC Metals include the RCRA 8 metals, must be analyzed as totals and dissolved
Evaporation Pond samples must be collected at the inlet, where waste water flows into the evaporation pond.

Appendix C - Table 1 - Ground water Monitoring Schedule – continued

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
GWM-2	Q	X		Check for water - if water is detected report to OCD & NMED within 24 hours; sample for BTEX + MTBE, GRO, DRO extended, major cations, major anions
GWM-3	Q	X		Check for water - if water is detected report to OCD & NMED within 24 hours; sample for BTEX + MTBE, GRO, DRO extended, major cations, major anions
GWM-1	Q	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
NAPIS -1 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
NAPIS -2 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
NAPIS -3 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
KA-3 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
Boiler Water & Cooling Tower Blow down Inlet to EP-2	Semi-Annual (SA)		pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions
Evaporation Pond 1 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 2 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 3 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 4 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 5 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 6 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 7 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 8 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 9A (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 11 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 12A (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals

NOTES:

The analyte list for EPA Method 8260 must include MTBE.
(a) NAPIS 1, NAPIS 2, NAPIS 3: Detection of product during quarterly monitoring must comply Section II.F.2 (twenty-four Hour Reporting) of NMED Post-Closure Care Permit
(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method). Parameters are subject to change
WQCC Metals include the RCRA 8 metals, must be analyzed as totals and dissolved
Evaporation Pond samples must be collected at the inlet, where waste water flows into the evaporation pond.

Appendix C - Table 1 - Ground water Monitoring Schedule – continued

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
Evaporation Pond 12B (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Any temporary pond containing fluid	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
BW-1A	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-1B	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-1C	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-2A	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-2B	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-2C	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-3A	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-3B	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-3C	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
Pond 2 Inlet	A			VOC, DRO extended, GRO, BOD, COD, TDS
MW-1	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
MW-4	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
MW-5	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
OW-11	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, WQCC Metals
OW-12	A	X	pH, E.C., DO, ORP, Temp, TDS	VOC
SMW-2	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
SMW-4	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
PW-2	Every 3 years starting in 2008			VOC, SVOC, WQCC Metals, Cyanide, Nitrates
PW-3	Every 3 years starting in 2008			VOC, SVOC, WQCC Metals, Cyanide, Nitrates

NOTES:

The analyte list for EPA Method 8260 must include MTBE.
(a) NAPIS 1, NAPIS 2, NAPIS 3: Detection of product during quarterly monitoring must comply Section II.F.2 (twenty-four Hour Reporting) of NMED Post-Closure Care Permit
(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method). Parameters are subject to change
WQCC Metals include the RCRA 8 metals, must be analyzed as totals and dissolved
Evaporation Pond samples must be collected at the inlet, where waste water flows into the evaporation pond.

Appendix C - Table 1 - Ground water Monitoring Schedule – continued

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
PW-4	Every 3 years starting in 2007			VOC, SVOC, WQCC Metals, Cyanide, Nitrates
Effluent from OLD API (storm water separator effluent)	Monthly flow rate measurements to NAPIS			Collect monthly flow rate readings from the Old API to the New API separator. If effluent is re-routed to any other location than the NAPIS, NMED/OCD must be contacted to determine whether additional sampling and analysis is required.

Table Notes:

Pilot Effluent - Effluent from the Pilot Gas Station to the Aeration Lagoon

Pond 2 Inlet - Sample collected at the inlet to Evaporation Pond 2 from Evaporation Pond 1
NAPIS Effluent - Effluent leaving the New API Separator

AL-2 to EP-2 - sample collection at the inlet from Aeration Lagoon 2 to Evaporation Pond 1 (influent location into EP-1)

NAPIS 1= (KA-1R); NAPIS 2 = (KA-2R); NAPIS 3 = (KA-3R) - monitor wells position around NAPIS to detect leakage

DO - Dissolved oxygen; ORP - oxygen reduction potential; Temp = temperature; E.C. = electrical or specific conductivity TDS = Total dissolved solids; VOCs = volatile organic compounds - EPA Method 8260, must include MTBE, SVOCs - semi volatile organic compounds - EPA Method 8270, must include phenol, DRO = diesel range organics- EPA Method 8015B (or as modified), GRO = gasoline range organics - EPA Method 8015B (or as modified), BTEX = benzene, toluene, ethylbenzene, xylene, plus Methyl Tertiary-Butyl Ether (MTBE) - EPA Method 8021 + MTBE

DTW = Depth to water; DTP = Depth to product; EP = Evaporation Pond; BW = Boundary Wells

GWM wells - are located around the aeration lagoons to detect leakage

MW = Monitor well; OW = Observation well; RW = Recovery well; PW = Raw water production well

Appendix D – Well Drilling Logs

9 December 2009
AMEC Project No. 9-517-000057

Ms. Michelle Young
Western Refining: Gallup Refinery
Route 3, Box 7
Gallup, NM 87301

Re: Letter Report for Monitoring Well Construction

Dear Ms. Young:

AMEC Earth and Environmental, Inc. (AMEC) is pleased to submit this letter report documenting groundwater monitoring well activities at the Western Refinery facility located near Gallup, New Mexico.

Site Background
The project site is located at the Gallup Refinery located north of I-40. The area to the north of the existing refinery consists of an open area. Access roads run through these open areas in the northeast portion of the property. Previously constructed monitor wells are located throughout the property.

Investigation Activities Conducted
AMEC drilled two (2) groundwater monitor wells (MW-1A, MW-2A) to depths of between 50 and 79 feet using a CME-75 truck mounted drill rig in the northeast corner of the property. A site plan showing the location of the new monitoring wells is attached.

The original two monitor wells (MW-1, MW-2) were abandoned due to difficult subsurface conditions. Two replacement wells were drilled (MW-1A, MW-2A). Soil samples from MW-1 and MW-2 were obtained at several depth intervals and tested for VOC's with a photo ionization detector (PID). Results are shown in Table 1 below.

Table 1
Photo Ionization Detector (PID) Results
Collected on October 1 and 2, 2009

Sample Depth (ft)	MW-1	Sample Depth (ft)	MW-2
60	ND**	5	ND
65	ND	10	ND
70	ND	15	ND
		20	ND
		25	ND
		30	ND
		35	1.1*
		40	1.1
		45	1.1

* Concentration in parts per million (ppm)
** ND = Not detected within limits of PID

Appendix D – Well Drilling Logs

Western Refining
Groundwater Monitoring Wells
Gallup Refinery
AMEC Project No. 9-517-000057
9 December 2009

If you have questions regarding the information contained within this letter report, please do not hesitate to contact us at 505.821.1801. AMEC appreciates the opportunity to provide Phase 2 investigation and reporting services to Vigil and Associates and looks forward to working with you again.

Best Regards,

AMEC Earth and Environmental, Inc.

Lee J. Mitchell, P.E.
Project Engineer

Ralph E. Crockett, P.E.
Senior Geotechnical Engineer

Copies: Addressee (3)

AMEC Earth & Environmental, Inc.
8519 Jefferson, N.E.
Albuquerque, New Mexico 87113
Telephone: 505/821-1801
Fax: 505/821-7371
www.amec.com

Appendix D – Well Drilling Logs

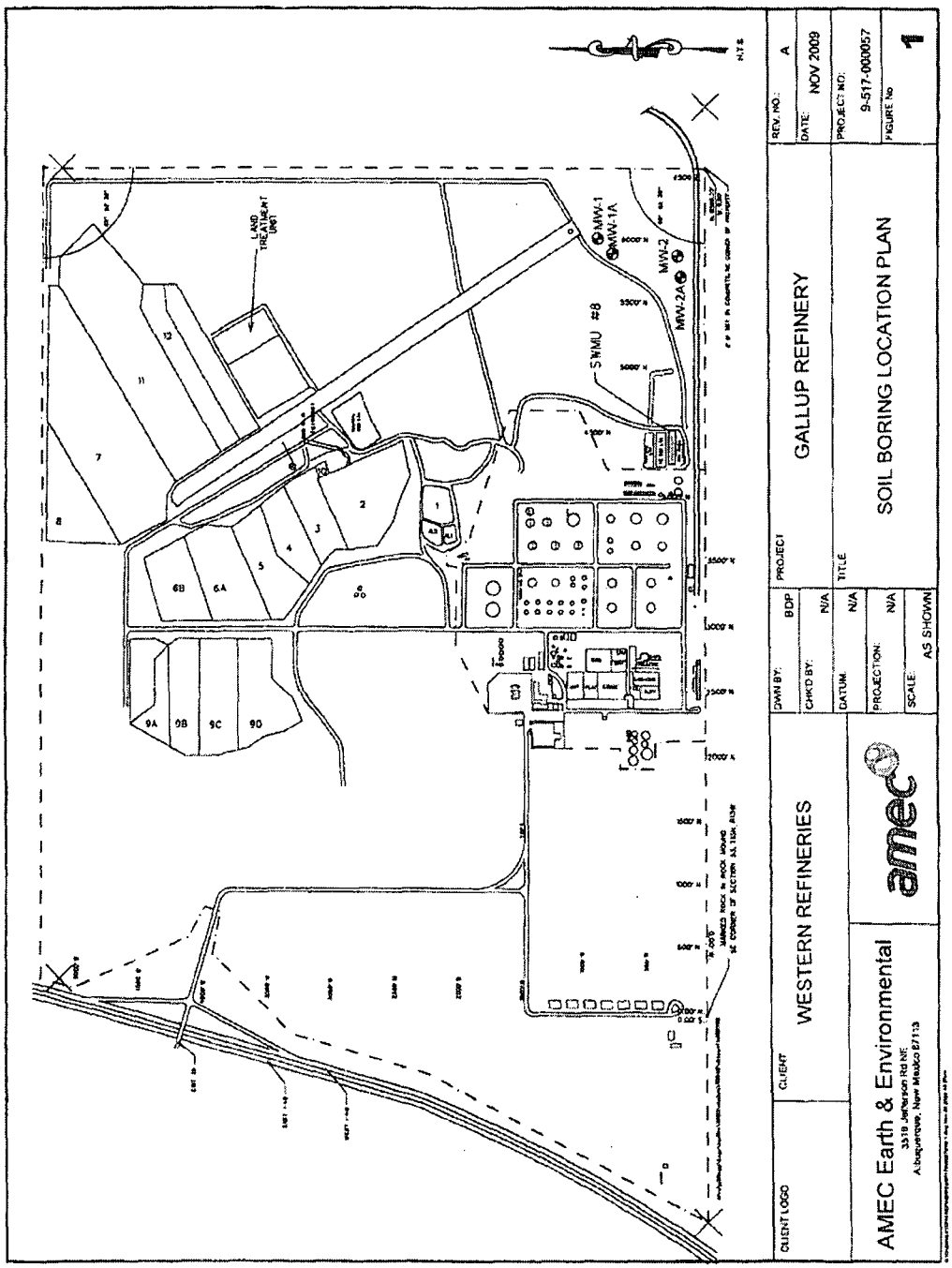
APPENDIX A

SITE PLAN

SOIL BORING LOGS

WELL CONSTRUCTION DIAGRAMS

Appendix D – Well Drilling Logs



Appendix D – Well Drilling Logs

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION — WELL ID: OW-50

Project Number: 9-517-057 Task Number: ____ Date: 11/17/09 Time: 12:30
Client: Western Refinery Personnel: J. Cotter
Project Location: Western Refinery - GALLUP Weather: Clear 50°F

2. WELL DATA

Casing Diameter: 2" inches Type of Casing: PVC
Screen Diameter: 2" inches (d) Type of Screen: PVC Screen Length: 15
Total Depth of Well from TOC: 63 feet
Depth to Static Water from TOC: 18.20 feet
Depth to Product from TOC: N.A. feet
Length of Water Column (h): 44.8 feet Calculated Casing Volume: 7.6 gal (3 to 5 times one well volume)
Purge Volume Calculation (one casing volume = 0.041d²h):
23 9915
Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft

3. PURGE DATA

Purge Method: Moonsoon Pump Equipment Model(s)
Materials: Pump/Bailer 1. ____
Materials: Rope/Tubing 2. ____
Was well purged dry? ☐ Yes ☐ No Pumping Rate: ____ gal/min

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: ORP	Comments
12:56	3	7.79	12.47	638		0.56		-22.9	Purge Start
13:03	7	7.82	12.50	661		0.06		-23.3	Clear
13:08	12	7.83	12.50	668		0.04		-22.2	mostly Clear
13:13	22	7.84	12.50	674		0.03		-21.3	Clear
13:19	23	7.84	12.50	674		0.03		-21.3	Sample End

4. SAMPLING DATA

Method(s): MoonSoon + Flow Cell
Materials: Pump/Bailer —
Materials: Tubing/Rope — Poly Tubing
Depth to Water at Time of Sampling: ____ Field Filtered? ☑ Yes ☐ No
Sample ID: OW-50 Sample Time: 13:20 # of Containers: 8
Duplicate Sample Collected? ☐ Yes ☑ No ID:

Analyses Requested:
6010 C
8260 B
8270
8015B – GRO
DRO

5. COMMENTS

Appendix D – Well Drilling Logs

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION — **WELL ID:** OW-52

Project Number: 9-517-057 Task Number: ____ Date: 11/17/09 Time: 11:17
Client: Western Refinery Personnel: J. Cotter
Project Location: Gallup, NM Weather: Clear 40°F

2. WELL DATA

Casing Diameter: 2" inches Type of Casing: PVC
Screen Diameter: 2" inches (d) Type of Screen: 0.10 PVC Screen Length: 15'
Total Depth of Well from TOC: 79' feet
Depth to Static Water from TOC: 16.75 feet
Depth to Product from TOC: NA feet
Length of Water Column (h): 62.25 feet Calculated Casing Volume: 10 gal (3 to 5 times one well volume)
Purge Volume Calculation (one casing volume = 0.041d²h): 3 x 9.915

Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft

3. PURGE DATA

Purge Method: Monsoon Pump Equipment Model(s)
Materials: Pump/Bailer 1. ____
Materials: Rope/Tubing 2. ____
Was well purged dry? ☐ Yes ☐ No Pumping Rate: 1.5 gal/min

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other ORP	Comments
11:45	5	7.97	12.24	665		0.20		-87.5	muddy START
11:55	15	7.89	12.21	667		0.05		-60.6	Clear
12:05	25	7.84	12.19	671		0.03		-58.1	clear
12:10	30	7.83	12.19	674				-56.5	" End Purge

4. SAMPLING DATA

Method(s): Monsoon + Flow Cell
Materials: Pump/Bailer ____
Materials: Tubing/Rope Poly - Tubing
Depth to Water at Time of Sampling: ____ Field Filtered? ☑ Yes ☐ No
Sample ID: OW-52 Sample Time: 12:20 # of Containers: 8
Duplicate Sample Collected? ☐ Yes ☑ No ID:

Analyses Requested:
8260B - VOCs
8270 - SVOCs
RCRA Metals 6010
DRO GRO 8015

5. COMMENTS 1L AMBER = 8270 SVOCS

Appendix D – Well Drilling Logs

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Western Refining Gallup

Mailing Address: Route 3 Box 7
Gallup NM 87301

Phone #: 505-722-3833

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time:
☑ Standard ☐ Rush ______

Project Name: New Monitoring Wells

Project #:

Project Manager: Gaurav Rajen

Sampler:

On Ice: ☐ Yes ☐ No

Sample Temperature:

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	GRO/DRO	8015 GRO/DRO			Air Bubbles (Y or N)
[illegible]	12:20	H_2O	OW-50	[illegible]	HCl											X	X	X	X			
[illegible]	13:20	H_2O	OW-5?	" "	[illegible]											X	X	X	X			

Date: [illegible] Time: [illegible] Relinquished by: [signature] Received by: [signature] Date Time

Date: Time: Relinquished by: [signature] Received by: Date Time

Remarks: Bill to Western Refining Gallup
Att: Gaurav Rajen

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

Appendix D – Well Drilling Logs

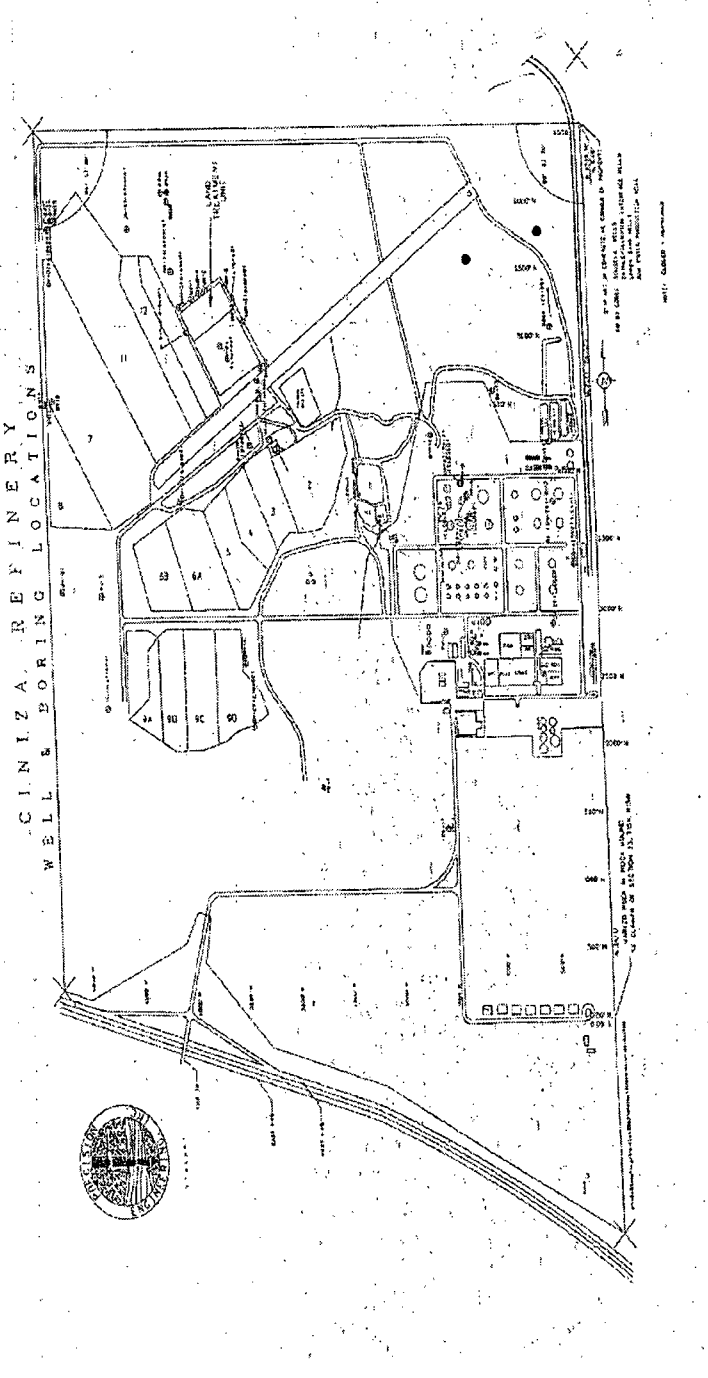
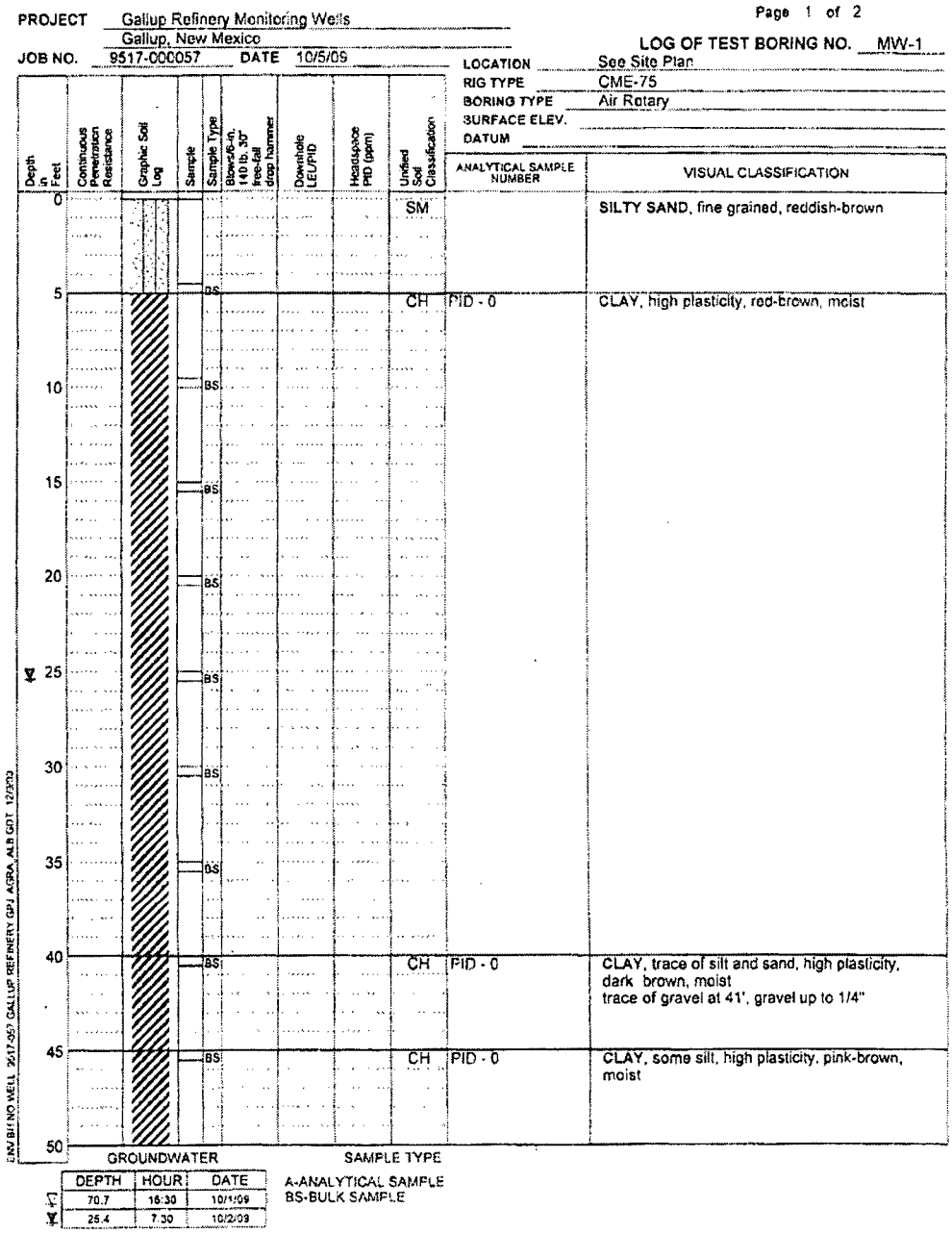


Figure 1
Monitoring Well Location ●
Monitoring well locations are approximate

Appendix D – Well Drilling Logs



Page 1 of 2

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

JOB NO. 9517-000057 DATE 10/5/09

LOG OF TEST BORING NO. MW-1

LOCATION See Site Plan
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in, 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		SILTY SAND, fine grained, reddish-brown
5				BS				CH	PID - 0	CLAY, high plasticity, red-brown, moist
10				BS						
15				BS						
20				BS						
25				BS						
30				BS						
35				BS						
40				BS				CH	PID - 0	CLAY, trace of silt and sand, high plasticity, dark brown, moist trace of gravel at 41', gravel up to 1/4"
45				BS				CH	PID - 0	CLAY, some silt, high plasticity, pink-brown, moist
50										

GROUNDWATER

	DEPTH	HOUR	DATE
▽	70.7	16:30	10/1/09
▼	25.4	7:30	10/2/09

SAMPLE TYPE
A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA_ALB GDT 12/3/09

Appendix D – Well Drilling Logs

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico
JOB NO. 9517-000057 DATE 10/5/09

LOG OF TEST BORING NO. MW-1

LOCATION See Site Plan
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV.
DATUM

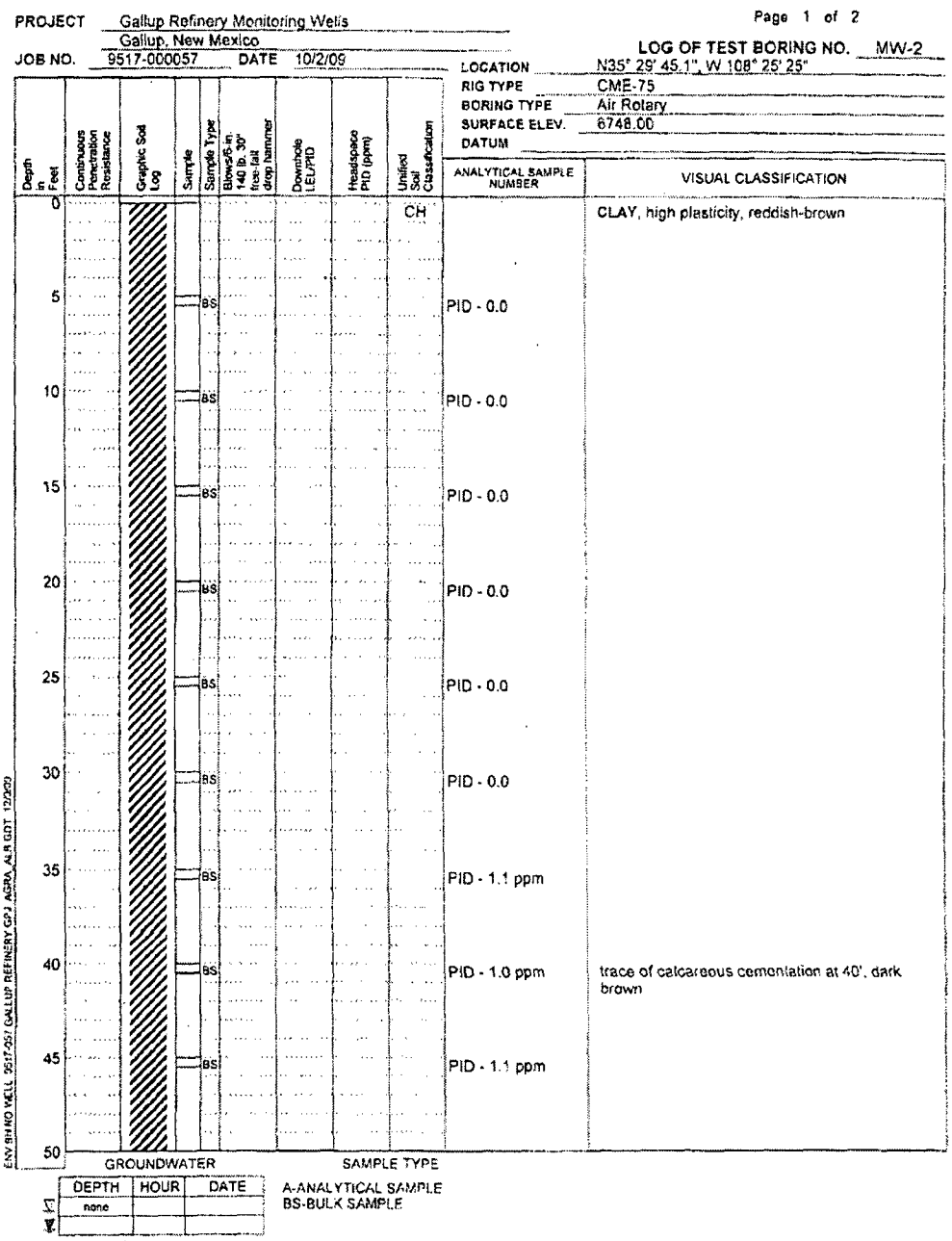
Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6 in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50				BS				CH	PID - 0.0	CLAY, some silt, high plasticity, pink-brown, moist trace of calcareous cementation nodules at 50' - 59'
55				BS						
60				BS				CH	PID - 0.0	CLAY, some silt, some calcareous cementation nodules, high plasticity, light purple
65									PID - 0.0	pink-brown at 64' - 67'
										light purple at 67'
70									PID - 0.0	SILTY SAND TO SAND, fine grained, nonplastic, light purple and white, some calcareous cementation nodules, very moist at 72' - 74'
75										End of boring at 74'
80										
85										
90										
95										
100										

GROUNDWATER

	DEPTH	HOUR	DATE
▽	70.7	16:30	10/1/09
▼	25.4	7:30	10/2/09

SAMPLE TYPE
A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

Appendix D – Well Drilling Logs



PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico
JOB NO. 9517-000057 DATE 10/2/09

Page 1 of 2

LOG OF TEST BORING NO. MW-2

LOCATION N35° 29' 45.1", W 108° 25' 25"
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV. 6748.00
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6 in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								CH		CLAY, high plasticity, reddish-brown
5				BS					PID - 0.0	
10				BS					PID - 0.0	
15				BS					PID - 0.0	
20				BS					PID - 0.0	
25				BS					PID - 0.0	
30				BS					PID - 0.0	
35				BS					PID - 1.1 ppm	
40				BS					PID - 1.0 ppm	trace of calcareous cementation at 40', dark brown
45				BS					PID - 1.1 ppm	
50										

ENV BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA_ALB GDT 12/2/09

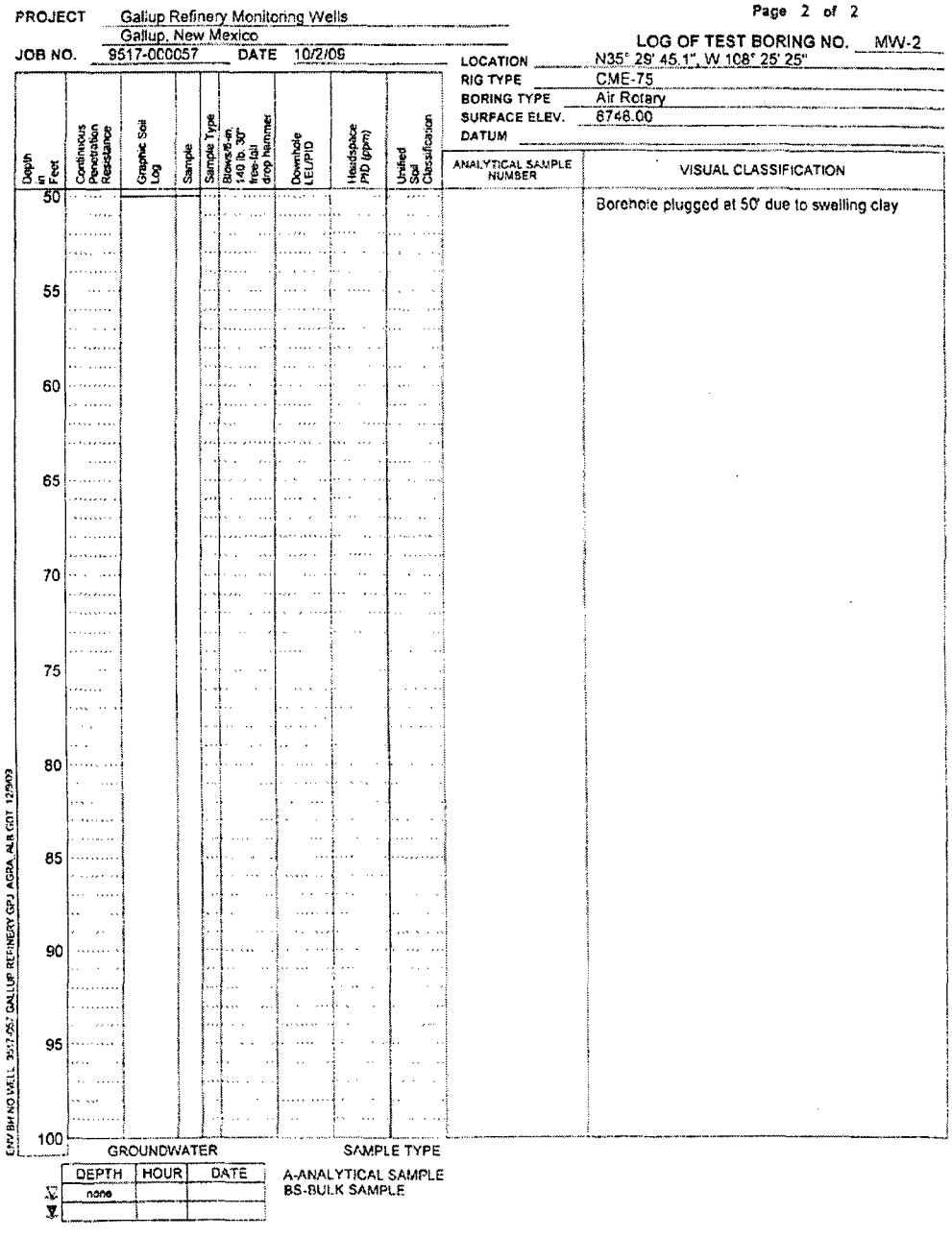
GROUNDWATER

	DEPTH	HOUR	DATE
▽	none		
▼			

SAMPLE TYPE

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

Appendix D – Well Drilling Logs



PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

LOG OF TEST BORING NO. MW-2

JOB NO. 9517-000057 DATE 10/2/09

LOCATION N35° 29' 45.1", W 108° 25' 25"
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV. 6748.00
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in, 140 lb, 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50										Borehole plugged at 50' due to swelling clay
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

GROUNDWATER

	DEPTH	HOUR	DATE
▽	none		
▼			

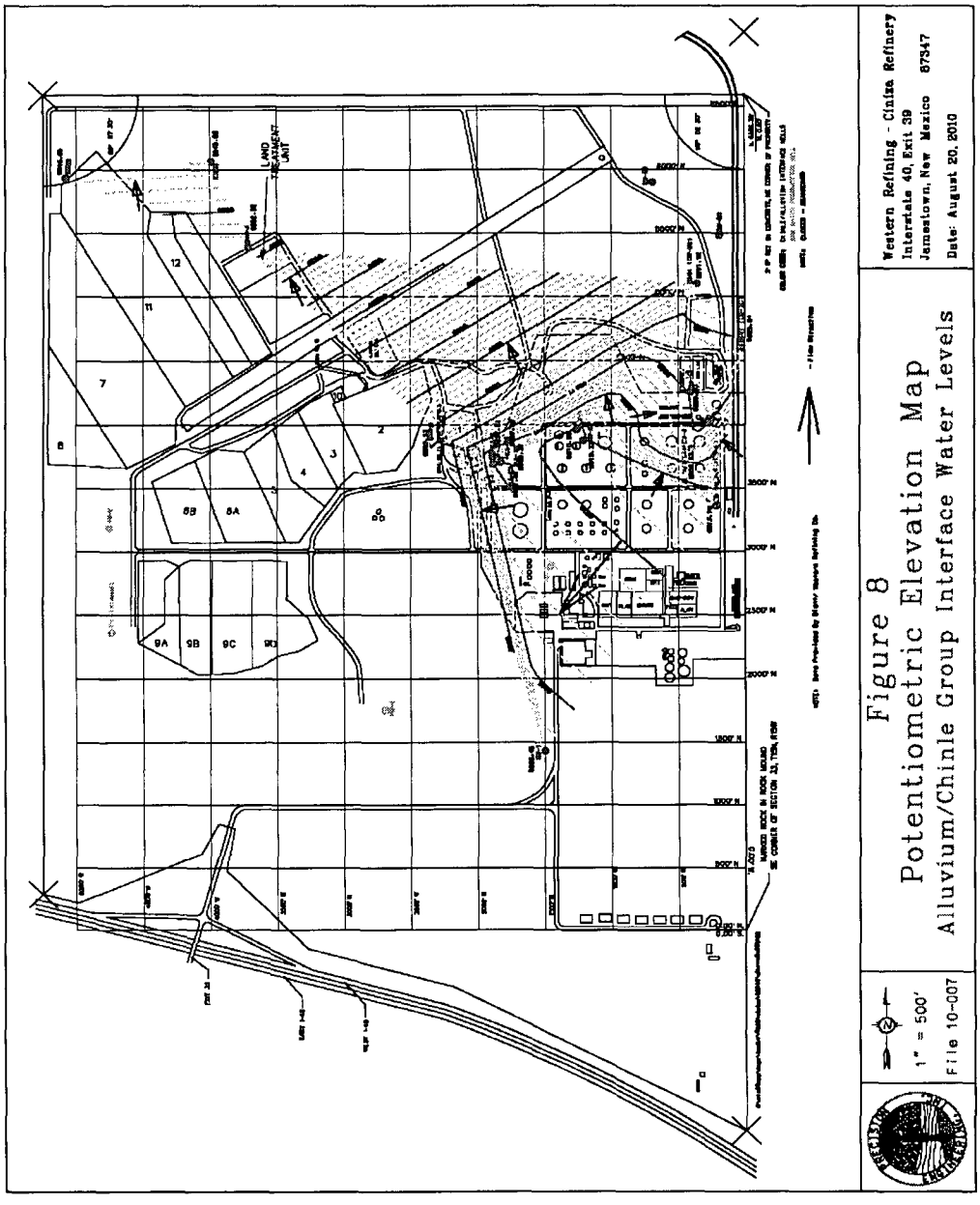
SAMPLE TYPE
A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA_ALB.GDT 12/9/09

Appendix E – Stratigraphy Map

Maps contracted out to Peregrine GeoConnect from Las Cruces by Bill Kingsley, P.E.
Maps were sent out for printing.

Appendix F – Potentiometric Map



HAZARDOUS WASTE
Contingency Plan

WESTERN REFINING- SOUTHWEST
(GALLUP REFINERY)

The Hazardous Waste Contingency Plan "the plan" (20NMAC 9.5.15; 40CFR265.50-265.56) is designed to be a stand alone plan that can be initiated independently for small incidents or may be activated under the Facility Response Plan (FRP), the Spill Prevention Control and Countermeasures Plan (SPCC) (40CFR112.3-112.7), the Stormwater Pollution Prevention Plan (SWPPP), or the Emergency Operation Center (EOC), Emergency Response Action Plan for large incidents as required depending on the severity. The plan should be reviewed annually and amended whenever changes occur that will significantly affect the ability of this facility to respond to an emergency situation. These revisions should include a review of the regulations, if the plan fails in an emergency, if this facility changes in a way that materially increases the potential for an emergency or changes in the response necessary in an emergency, if the list of emergency coordinators changes or if the list of emergency equipment changes. Emergency Response Drills are addressed in the plans mentioned above. All actions will comply with applicable state, federal, and local regulations.

Plan Updated: 033111
Prepared By: Beck Larsen

Table of Contents

1. General Facility Information

Facility Name-	Western Refining- Southwest (Gallup Refinery)
Facility Owner / Operator-	Western Refining- Southwest
Physical Address-	I-40 Exit 39 Jamestown, NM 87347
Mailing Address-	Rt 3 Box 7, Gallup, NM 87301
County-	McKinley
Facility Telephone-	(505) 722-3833
Facility Fax-	(505) 722-0210
EPA Identification Number-	NMD000333211
SIC / NAICS Code-	2911 / 324110

2. Purpose and Scope of Plan

Although this facility is designed, constructed, maintained and operated in a manner that minimizes the possibility for emergency incidents such as fire, explosions and any unplanned sudden or non-sudden release of hazardous material, hazardous waste or hazardous waste constituents to air, soil or surface water, this plan is designed to minimize hazards to human health and the environment in the unlikely event of such incidents. This plan is designed to satisfy the requirements of all applicable State Hazardous Waste Regulations (NMAC 20.4.1.300, NMAC 20.4.1.600) and Federal Hazardous Waste Regulations (40 CFR 262.34(a)(4) and 40 CFR 265.50-265.56). This plan shall be used in conjunction with either of the Facility Response Plan (FRP), the Emergency Operation Center (EOC) procedures, or the Spill Prevention Control and Countermeasures (SPCC), Stormwater Pollution or the VOC/ Good Housekeeping Plans.

3. Overview of Facility Operations

Gallup Refinery is a crude oil refining facility located in McKinley County, New Mexico at Township 15 North, Range 15 West, Sections 28 and 33, the northern one-third of Section 4 of the New Mexico coordinate system. Gallup Refinery's mailing address is: Route 3 Box 7, Gallup, NM 87301 and the physical address is Interstate 40 (I-40), Exit 39, Jamestown, NM. 87347. Gallup Refinery is just north of I-40 and approximately 17 miles east of Gallup, NM.

Gallup Refinery (formerly known as Ciniza) originally owned by El Paso Natural Gas Company was constructed in 1957. The refinery was purchased by Shell Oil Company and operated by Shell until 1982. Ciniza was then purchased and operated by Giant Industries Arizona, Incorporated until 2007. Western Refining Southwest purchased Ciniza Refinery (now known as Gallup Refinery) in May 2007. Gallup Refinery is operated by Western Refining Southwest.

The Gallup Refinery is a crude oil refining facility. The refinery receives and processes crude oil and other feedstock, and then produces various finished products. These include propane, butane, naphtha, unleaded gasoline, diesel (low sulfur and ultra-low sulfur), kerosene, and residual fuel.

Built in the 1950's, the Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown, New Mexico, 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope of the continental divide.

The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Pilot Travel Center (formerly Giant) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than 7 inches per year.

The refinery primarily receives crude oil via two 6 inch diameter pipelines; two pipelines from the Four Corners Area enter the refinery property from the north. In addition, the refinery also receives natural gasoline feed stocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Conoco gas plant. Crude oil and other products also arrive at the site via railroad cars. These feed stocks are then stored in tanks until refined into products.

The refinery incorporates various processing units that refine crude oil and natural gasoline into finished products. These units are briefly described as follows.

- The Crude Distillation Unit separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residuals.

- The Fluidized Catalytic Cracking Unit (FCCU) dissociates long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.

- The Alkylation Unit combines specific types of hydrocarbon molecules into a high octane gasoline blending component.

- The Reforming Unit breaks up and reforms low octane naphtha molecules to form high octane naphtha.

- The Hydrotreating Unit removes undesirable sulfur and nitrogen compounds from intermediate feed stocks, and also saturates the feeds tocks with hydrogen to make diesel fuel.

- Additional Treater Units remove impurities from various intermediate and blending feed stocks to produce finished products that comply with sales specifications.

- The Isomerization Unit converts low octane hydrocarbon molecules into high octane molecules.

- A set of Acid Gas Treating and Sulfur Recovery Units convert and recover various sulfur compounds from other processing units and then produce either Ammonium Thiosulfate or a solid elemental sulfur byproduct.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel. In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feeds tocks, finished products, chemicals, and water. These tanks are all located aboveground and range in size from 80,000 barrels to less than a 1,000 barrels.

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units. A railroad spur track and a railcar loading rack are used to transfer feed-stocks and products from refinery storage tanks into and out of railcars. Several tank truck loading racks are used at the refinery to load out finished products and also may receive crude oil, other feed stocks, additives, and chemicals. Gasoline and Diesel is delivered to the Pilot Center via tanker truck.

Western Refining- Southwest (Gallup, NM) is a generator of both non-hazardous and hazardous waste that is under the "<90 day" status; therefore, a Hazardous Waste RCRA Permit is not required. Western Refining- Southwest (Gallup, NM) potentially generates approximately two hundred ninety (290) tons of hazardous waste annually as based on the 2007 Annual Hazardous Waste Report. Based on this annual generation of hazardous waste, Western Refining- Southwest (Gallup, NM) is classified as a Large Quantity Generator (LQG). Various activities involving container storage of hazardous waste are subject to and applied under both State of New Mexico (20NMAC Ch4) and Federal (40CFR Subchapter I) regulations. The "Container and Management Plan" is designated to outline procedures for the handling and management of waste streams generated at the facility. The "Container / Waste Management & VOC Good Housekeeping Plan" or also referred to as the "Plan", specifically emphasizes the handling and management of drums and various size containers used specifically to store hazardous waste in order to maintain compliance with the regulatory requirements.

A firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vacuum truck. The vacuum truck pumps the oily water into a process sewer leading to the New API Separator (NAPIS).

4. WASTE and PROCESS GENERATING WASTE

In general, drums and containers are used to store hazardous waste. Waste is generated in several areas throughout the facility. These waste streams may be solvents or paint-related waste from painting and clean-up operations, oil contaminated debris (such as oily rags or absorbent pads generated from spill cleanup), laboratory waste, API Separator or sewer sludge, and maintenance shop waste.

As hazardous wastes are generated, drums and containers are used to store this material at or near the point of generation, in hazardous waste satellite accumulation locations. All satellite accumulation points are subject to specific management requirements such as labeling, inspection and accumulation time as specified. When all containers at these accumulation points are filled, they MUST be transported to the "Less Than 90 Day" Storage within the allowable three (3) day period.

WASTE HANDLING AND DISPOSAL

Anyone who generates a solid waste (solid or gas) is required to determine whether the waste is hazardous. This "Process" is known as making a "Hazardous Waste Determination". This determination can be very complex and SHOULD BE MADE officially by the Environmental Department. Whenever a new waste stream is generated or if the

contents of the waste vary from what is routinely managed, then Environmental Manager or the Environmental Department MUST be notified as soon as possible in order to provide a proper waste determination. However, **the person or persons generating the waste WILL INDICATE the appropriate contents on the container prior to the Environmental Department notification**. This labeling WILL be made legibly on the container with a permanent marking device.

All waste generated at Western Refining- Southwest (Gallup, NM) **MUST be properly managed**; i.e., identified, handled, and disposed. Improper identification, handling, and disposal may result in injuries, fires, or explosions that could lead to fines or to possible imprisonment. This section will detail handling and disposal procedures for each of the typical waste streams that is generated. The following list is not inclusive of all waste generated at the facility; however, **ALL Waste MUST be treated in the same manor of handling**. **IMPORTANT NOTE**: Even dried paint waste in cans or pails that would normally be considered non-hazardous solid waste, would become liquid hazardous waste if the container lids were unsealed and rain water was allowed to accumulate.

WASTE GENERATION LIST

Lead - Acid Batteries (Alkaline/Ni-Cad)
Spent Oil / Fuel Filters (NHT Filters)
Used Oil
Hydraulic Oil
Activated Carbon (VOC) Canister (55 gallon drums / 1000 #)
API Separator (Wastewater Treatment) Sludge
Dissolved Air Floatation (DAF) Sludge
Process Sewer Sludge
Spent Hydrotreating Catalyst
Tank Bottoms and Residue
Hydrocarbon Contaminated (TPH) Soil
Empty Drums and Containers
Parts Washer
General Refuse / Trash
Wooden Pallets
Treated Wood
Scrap Metal
Tires and Miscellaneous Scrap Rubber
Welding articles, rods, & miscellaneous debris
Antifreeze (Ethylene Glycol)
Fluorescent Light Bulbs and Ballast
Laboratory (Organic/Inorganic) Waste
Waste paint / thinner
Empty Paint /Thinner Cans, Brushes, and Paint Related Material

5. Incident Commander (IC), Emergency Response Coordinator, or Alternate

The refinery is operated as a 24 hour, seven day per week operation. Therefore, there are always one or more employees either on the premises at any one time. During non-standard work days, holidays, etc, environmental personnel are also on-call to respond to an emergency by coordinating all emergency response measures. The duties and responsibilities for emergency response are covered in Section 9 of

this plan.

The Incident Commander (IC), Qualified Individual (QI), Emergency Response Coordinator, or Alternate has full authority to commit the necessary resources needed to respond to emergencies at this facility and to direct other trained employees to assist in the implementation of this contingency plan. A list of Emergency Notification Procedures and Phone List, Qualified Individual (QI) personnel, Emergency Response Personnel and Coordinator(s), Spill Response Team members (if designated) and first aid specialists (if designated), and Agency Response Notifications is included in **Appendix A**. A list of the available emergency equipment, its location and capabilities is included in **Appendix B**.

6. Coordinated Emergency Services with Off-Site Emergency Responders

FEDERAL AGENCIES-

o	National Response Center (NRC) (preferred method)	www.nrc.uscg.mil (Immediate Notification)
	(via telephone)	(800) 424-8802
o	Federal On-Scene Coordinator (OSC)	(214) 665-6489
o	EPA (Region VI)	(866) 372-7745
	(Don Smith)	(214) 665-2222
o	OSHA Regional Office	(505)248-5302

STATE AGENCIES-

o	New Mexico 24-hour Incident Reporting Line	(505) 863-3839,X-2003
o	New Mexico State Police	(505) 722-9353 / **911**
o	NM State Emergency Response Commission (SERC)	(505) 827-9126
o	NMED (HWB) (Emergency Coordinator)	(866) 476-6026
o	Oil Conservation Division (OCD)(if required)	(505) 334-6178

LOCAL /COUNTY AGENCIES-

o	Local Emergency Planning Committee (LEPC)	**911**
o	McKinley County Emer Mgmt	(505) 863-1437 or (505) 863-3839

☐ This facility is not within an established fire protection district. We have developed our own fire protection and prevention plan based on the Uniform Fire Code, the National Fire Code, the Uniform Building Code and 29 CFR Chapter XVII, part 1910, subpart L, Fire Protection. The facility has its own fire department including fire truck and trained personnel that could react to most minor incidents.

OUTSIDE CONTRACTORS / OTHER INFORMATION -

o	Fort Wingate/ Thoreau Fire /Ambulance Department	(505) 488-5261
o	City of Gallup- 24 Hour Emergency	(505) 863-1200
o	Gallup Fire / Ambulance Department	**911**
o	Med Star Ambulance	(505) 722-7746
o	Rehoboth McKinley County Hospital (RMCH)	(505) 863-7000
o	Gallup Med Flight	(505) 726-0053
o	H2O OSRO, Inc	(866) 426-6770

	(Carl Oskins-Cell)	(214) 794-0119
○ Rinchem Company		(505) 345-3655
○ Riley Industrial Services		(505) 327-4947
○ Envirotech, Inc		(505) 632-0615

WESTERN REFINING, INC- (915) 775-3455

○ Ann Allen	(Office)	(915) 534-1480
	(Cell)	(915) 491-1562

- ○ Reporting must include:
  - Name and telephone number of person reporting incident;
  - Name and address of facility;
  - Time and type of incident;
  - Name and quantity of material(s) involved, to the extent known;
  - Extent of injuries, if any;
  - Possible hazards to human health or environment outside the facility.

Take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread:

- Establish the objectives and priorities for response to the incident:
- Determine mitigation actions;
- Identify resources required for response;
- Mobilize those resources;

Name of Spill Response / Emergency Response Contractors (Appendix C)

Contractor	Phone
<u>Oil Spill Response Organization (OSRO):</u>	
H2O OSRO PO Box 2638 Ranchos de Taos, NM 87557 Contact: Carl Oskins	(866) 426-6770 (505) 751-1447
<u>Oil Spill Containment, Cleanup Equipment and Supplies:</u>	
Elastec/American Marine P. O. Box 940, Cocoa, FL 32922 Contact: Jeff Pierce	(407) 636-5783
<u>Spill Response Cleanup Personnel, Equipment and/or Waste Oil and Debris Removal:</u>	
H2O Environmental 4280 N. Pecos Rd. Las Vegas, NV 89115	(702) 396-4148
Rinchem Company, Albuquerque, NM	(505) 345-3655
Riley Industrial Services, Farmington, NM	(505) 327-4947

7. Implementation Plans

The facility's Evacuation, Immediate Action, Disposal, Containment and Drainage, and Disposal Plans are included in **Appendix C.**

8. Location of 90-day and Satellite Accumulation Areas

The facility has two designated ninety (90) day storage areas. The primary ninety (90) day Storage Accumulation Area is located near the stormwater diversion tanks (T-27,28,35). This area has a concrete berm and slab that is located within another earthen dike that contains a stormwater diversion tanks (T-27,28,35). An alternate ninety (90) day Storage Accumulation Area is located at the Bundle Cleaning Pad. Drums of Hazardous Waste may be stored temporarily at this location prior to moving to the primarily ninety (90) day Storage Accumulation Area. Western Refining (Gallup Refinery) operates without a RCRA Permit and is under Interim Status. Since the facility is operating without a RCRA Permit, all Hazardous Waste MUST be shipped offsite within the ninety (90) day period as specified in accordance with the Code of Federal Regulations (40CFR262.34)

Refer to the Facility Response Plan (FRP) or the Emergency Operation Center (EOC) for further contact information as required. . Facility diagrams with accumulation/storage areas annotated may be included in **Appendix F.**

9. Emergency Procedures and Responsibilities

Incident Commander (IC), Emergency Coordinator, or alternate:

- Be onsite or on-call at all times to coordinate emergency response activities;
- Be thoroughly familiar with this contingency plan, the operations and activities occurring at this facility, the physical layout of this facility, the location and characteristics of wastes generated, stored and/or managed onsite, and the location of all records necessary to implement this plan;
- In an imminent or actual emergency, immediately activate internal facility alarms or communications systems to alert facility personnel of the emergency;
- Immediately notify spill response contractor with response roles as identified in **Section 6** (pg 6) or **Appendix A** (pg 12) of the plan.
- Immediately notify state and local emergency response agencies with response roles as identified in this plan;
- Immediately identify the biological, chemical and physical properties of any released material, the source of the release, the amount released, and the areal extent of the material;
- Immediately assess possible direct and indirect hazards to human health and the environment that may result from the incident and identify threatened resources and receptors;
- Determine if the incident could threaten human health or the environment outside the facility and if evacuation of local areas outside of the facility is required;
- Notify appropriate federal, state and local emergency reporting agencies:
- Stop processes and operations as necessary using the following criteria and procedures:
    - Remove or isolate waste containers.
    - If facility operations cease, monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes and other equipment;
    - Immediately after an emergency, provide cleanup, treatment, storage and/or disposal of

recovered waste, contaminated soil or surface water, and other material that results from the incident by:

- Ensure all wastes are managed and disposed of in accordance with federal, state and local requirements;
- Ensure that no waste incompatible with the released material is processed until cleanup procedures are completed;
- Ensure that all emergency equipment is cleaned and fit for its intended use before operations are resumed;
- Coordinate with federal, state and/or local regulatory agencies to determine that appropriate response actions have been successfully completed and terminate emergency response;
- Provide details of the incident to the Owner/Operator and notify them when emergency response has terminated and that all emergency equipment is ready for use;

Owner/Operator Responsibilities:

- Notify all Federal, State, and local authorities that the facility has implemented the contingency plan and is in compliance with the requirements of the plan before operations are resumed;
- Record the time, date and details of the incident in the facility files;
- Submit a written report to the New Mexico Environmental Department (Hazardous Waste Bureau) and Oil Conservation Division (OCD) within 15 days of the incident that includes:
    - Name, address, and telephone number of the owner/operator;
    - Name, address, and telephone number of the facility;
    - Date, time and type of incident;
    - Name and quantity of material(s) involved;
    - Extent of injuries, if any;
    - Assessment of actual or potential hazards to human health or environment, if applicable;

APPENDIX A

Emergency Notification Procedures and Phone List

Emergency Notification Procedures

1. Primary and Secondary Means of Communications

   The primary verbal communications system is through the use of cellular telephones.

2. Notification of Operations Control Center

   Upon initial discovery of a spill, the first responder should notify the Gallup Refinery Main Office.

3. Notification of Qualified Individual

   The Gallup Refinery Main Office personnel will then notify the Qualified Individual who will then notify the required agencies, corporate spill management personnel first responders. The Qualified Individuals and Response Personnel can be reached 24 hours a day at the numbers listed in the Emergency Notification Phone List that follows this page.

4. Information Provided in Initial and Follow Up Notifications

   See the following forms in this section:

   Spill Response Notification Form
   National Response Center Notification Form

Emergency Notification Phone List

Reporter's Name: _____ Date: _____

Facility Name: Western Refining Co. – Gallup Refinery
Owner Name: Western Refining, Inc.

Facility Identification Number: _____

Date and Time of Each NRC Notification:

_____

_____

_____

_____

_____

_____

_____

Qualified Individual Phone Numbers

Qualified Individuals	Phone Number
Mark B. Turri	(505) 722-0202 Office (505) 979-1320 Cell
Thurman B. Larsen	3411 Box Canyon Avenue Gallup, NM 87301 (505) 722-0258 Office (505) 862-1648 Cell (505) 753-3150 Home

Emergency Response Personnel
Facility Response Team

Name	Response Time (Minutes)	Responsibility	Response Training/Date
Mark Turri	30	Command (QI/IC)	Qualified Ind. / 2010
Beck Larsen	60	Command (AQI/IC)	Qualified Ind. / 2010
Teddy Orr	30	Team Leader	OSHA 1910.120 / annual
Milton Barney	45	Crew	OSHA 1910.120 / annual
Cecil Dixon	30	Crew	OSHA 1910.120 / annual
Ervin Emerson	60	Crew	OSHA 1910.120 / annual
Lawrence Griego	30	Crew	OSHA 1910.120 / annual
Arnold Guzman	120	Crew	OSHA 1910.120 / annual
Rodney James	120	Crew	OSHA 1910.120 / annual
Austin Kee	75	Crew	OSHA 1910.120 / annual
Mary Langley	90	Crew	OSHA 1910.120 / annual
Richard Luna	30	Crew	OSHA 1910.120 / annual
Pat Martinez	30	Crew	OSHA 1910.120 / annual
Mack McKinney	30	Crew	OSHA 1910.120 / annual
John Platero	30	Crew	OSHA 1910.120 / annual
Ron Radosevich	30	Crew	OSHA 1910.120 / annual
Zach Ramirez	30	Crew	OSHA 1910.120 / annual
Ed Riege	60	Crew	OSHA 1910.120 / annual
Jodie Sanchez	30	Crew	OSHA 1910.120 / annual
Tyrone Silentman	30	Crew	OSHA 1910.120 / annual
Kerry Vandever	60	Crew	OSHA 1910.120 / annual
Philbert Brown	45	Crew	OSHA 1910.120 / annual

Organization	Y/N	Phone Number

1. Initial Notifications:

National Response Center (NRC)		www.nrc.uscg.mil
		800) 424-8802
		(202) 267-2675
	Fax:	(202) 267-2181
Federal On-Scene Coordinator (OSC)		(214) 665-6489
EPA Region 6		(866) 372-7745
1445 Ross Ave. (6SF-RP)		(214) 655-7112
Dallas, TX 75357-0693		
Contact: Don Smith		(214) 665-2222
		(214) 665-6489
		smithdonaldp@epa.gov
OSHA Regional Office		(505) 248-5302
Western Refining, Inc.		(915) 775-3455
Pipeline, Bisti Station		(505) 632-8006
Pipeline, Hospah Station		(505) 632-8006
Conoco Natural Gas, Wingate		(505) 863-3900
Bureau of Land Management – Rio Puerco		(505) 761-8700
435 Montano Road, NE	Fax	(505) 761-8911
Albuquerque, NM 87107-4935		
Navajo EPA		(928) 871-7994
Contact : Arlene Arthur		
Navajo Nation (Crownpoint)		(505) 786-2012
NM Department of Environmental Protection		(505) 476-9681
Hazardous Materials Emergency Response		
State of New Mexico Environmental Dept.		
Gallup		(505) 722-4160
Santa Fe - Hotline		(505) 827-9329
New Mexico Department of Public Safety		(505) 476-9610
Hazardous Response		

NM Oil Conservation Division - Aztec	(505) 334-6178
New Mexico One Call	(800) 321-ALERT (2537)
McKinley County Emergency Management	(505) 863-1437
	(505) 863-3839 x 2003
Local Emergency Planning Committee (LEPC)	911
State Emergency Response Commission (SERC)	(505) 827-9126

2. Qualified Individual and Alternates:

Name: Mark Turri - *Refinery Manager*

Office Phone:	(505) 722-0202
Cell Phone:	(505) 979-1320

Name: Thurman Larsen - *Environmental Engineer*

Office Phone:	(505) 722-0258
Cell Phone:	(505) 862-1749
Home Phone:	(505) 863-3150

3. Company Response Team: (505) 879-9329

All Numbers for Response Team Members are Cell Phone Numbers.

Allen Schult	(505) 870-4345
Andy Green	(505) 870-8410
Bill Chojnacky	(505) 870-3526
Brian Hines	(505) 206-4203
Chris Schumaker	(505) 879-9309
Dan Farris - *Safety Manager*	(505) 721-9070
Danny Diaz	(505) 870-2179
Don Colfack	(505) 879-8125
Don Riley	(505) 862-2307
Ed Riege - *Environmental Manager*	(505) 979-1497
Felix Montoya	(505) 870-2631
Frank Keys	(505) 728-4939
Georgene Martinez	(505) 236-2035
Gina Gutierrez	(505) 320-1752
Guarav Rajen	(505) 879-9340
Guard Shack-Rack	(505) 870-4372
I&E On Call	(505) 728-9740

James Geer		(915) 526-6384
Joel Quinones		(505) 879-2699
Judy Palochak		(505) 280-9141
Kyle Thomas		(505) 879-9312
Larry Jeff		(505) 870-6311
Mack McKinney		(505) 870-4364
Michelle Young - *Purch./Warehouse Mgr.*		(505) 870-4356
Mike Luchetti		(505) 870-1464
Nathan Rodriguez		(505) 728-9119
Off-Sites Explosion Proof		(505) 406-7400
Paul Alonzo		(505) 870-1004
Ralph Castaneda		(505) 728-0219
Reggie Joseph		(505) 870-4360
Rich Eustace		(505) 870-3132
Richard Schmitt		(505) 870-1519
Robbie Bielenberg		(505) 870-4363
Rodney Joseph		(505) 554-9335
Rockelle Stanley		(505) 879-9325
Roger Daily		(505) 879-4253
Roxy Marsh		(505) 728-9118
Shifters Explosion Proof		(505) 406-7488
Teddy Orr - *Safety Inspector*		(505) 870-8258
Terry Larry		(505) 236-6884
Tom Mascarenas		(505) 979-0620
Travis Puckett		(505) 870-3947
Tom Boswell		(505) 906-3785
Tom Urbas		(505) 870-4165
Vaughn Dennerlein		(505) 870-1537
Loretta Morgan		(505) 240-1594
Stephanie Olguin		(505) 879-2920

4. Additional Notifications To Be Used As Needed:

Federal Bureau of Investigation		
Farmington, NM Office		(505) 326-5534
NM State Police		911
Non-Emergency Dispatch		(505) 722-9353
Gallup		(505) 863-9353
	Fax	(505) 722-2043
City of Gallup Police		911
City of Gallup Emergency		(505) 863-1200
City Manager's Office		(505) 726-6108
	Fax	(505) 863-9352
McKinley County Sheriff's Office		911
Contact: Felix Begay		(505) 863-1410
		(505) 722-7205

	Fax	(505) 722-9317
Fire Departments		
Gallup FD/Ambulance		911
Thoreau FD/Ambulance		(505) 862-7770
Ft. Wingate FD		(505) 488-5261
Wingate Cedars FD		(505) 488-5528
Whispering Cedars FD		(505) 488-5528
Ambulance and Emergency Medical Services		911 or
Med Star Ambulance		(505) 722-7746
Santa Fe Railroad Trainmaster		(505) 722-2709
H2O OSRO, Inc.		(866) 426-6770
	Fax	(575) 751-1418
Contact: Carl Oskins	Cell	(214) 794-0119
	Home	(575) 751-3688
Media		
Radio Station KGAK		(505) 863-4444
Radio Station KGLX/FM Q106		(505) 863-9391
Radio Station KXTC		(505) 722-4442
Television Station KOBF		(505) 863-2413
Television Station KRQE		(505) 243-2285
Weather Service (Albuquerque)		(505) 243-0702
New Mexico State Road Conditions		(505) 863-9353
Poison Control		(800) 432-6866
Hospitals		
Rehoboth McKinley County Hospital		
1901 Red Rock Dr., Gallup, NM		(505) 863-7000
Corporate Insurance		
Jacque Cumbie		(480) 585-8762
Aircraft Charter and Rental Services		
Gallup Med Flight		(505) 726-0053
(Aircraft Charter, Ambulance Svc.)		
Gallup Flying Service		(505) 863-6606
Seven Bar Four Corners Aviation		(505) 325-286 or
		(800) 695-4949
7 Bar Flight Patrol		(505) 325-2867

5. Available Contractors with Equipment:

Rinchem Company, Albuquerque, NM	(505) 345-3655
Riley Industrial Services, Farmington, NM	(505) 327-4947

6. Other Available Resources:

Gallup

Best Western Inn, 3009 W. Hwy 66	(505) 722-2221
Holiday Inn, 2915 W. Hwy 66	(505) 863-8122
Budget Inn, 3150 W. Hwy 66	(505) 722-2600
El Rancho Hotel, 1000 E. Hwy 66	(505) 863-9311

Environmental and Ecological Services

D&H Petroleum & Environmental Svcs. (Environmental & Ecological Svcs.) Gallup, NM	(505) 722-7259
Alpha Bioscience Co. (Soil and Water Bioremediation) Farmington, NM	(505) 325-5036
Envirotech, Inc. (Soil and Water Bioremediation) Farmington, NM	(505) 632-0615

Conference and Meeting Rooms

Best Western Inn 3009 W. Hwy 66, Gallup, NM	(505) 722-2221
Convention & Visitors Center 255 E. Hwy 66, Gallup, NM	(505) 863-3841

Wildlife and Volunteer Organizations

Audubon New Mexico Santa Fe, NM	(505) 983-4609

Emergency Response Contractors

Contractor Responsibility	Phone	Response Time	Contract
Oil Spill Response Organization (OSRO):			
H2O OSRO Emergency Response, Oil Spill PO Box 2638 Ranchos de Taos, NM 87557 Contact: Carl Oskins	(866) 426-6770 (505) 751-1447 Cleanup, Waste Management Services (505) 751-1418 fax	5 to 12 hours	
Oil Spill Containment, Cleanup Equipment and Supplies:			
Elastec/American Marine P. O. Box 940, Cocoa, FL 32922 Las Vegas, NV 89115 Contact: Jeff Pierce	(407) 636-5783 (407) 636-5787 fax	24 hours Manufacturer and Supplier	Oil Spill Boom and Skimmer
Spill Response Cleanup Personnel, Equipment and/or Waste Oil and Debris Removal:			
H2O Environmental 4280 N. Pecos Rd Las Vegas, NV 89115	(702) 396-4148 (702) 643-8635 fax	8 – 12 hours Pumping/Vacuum Services Oil Spill Cleanup, Waste Oil/ Debris Removal and Disposal Emergency Response	
Rinchem Company, Albuquerque, NM	(505) 345-3655	3 – 5 hours Chemical Mgmt. Services	
Riley Industrial Services, Farmington, NM	(505) 327-4947	2 hours Vacuum Trucks – one 80 barrel And Seven 50 barrel	

APPENDIX B

Facility Response Equipment List

1. Boom - Operational Status: Operational

   Number: 1000 ft. – 20 ' lengths of 50 ft. sections

   Size: 4" diameter, 6" skirt

   Type and Model: Elastec-American Marine Top Cable Swamp Boom

   Storage Location(s): Spill Response Trailer

2. Skimmers/Pumps- Operational Status: Operational

   Number: 1 2-drum skimmer

   Size: 3 foot length drums

   Storage Location(s): Spill Response Trailer

   Type and Model: Elastec-American Marine drum skimmer

3. Sorbents – Operational Status: None

   Type and Year Purchased: Sorbent Pads, Socks and Blankets

   Amount: 25-55 3" x 42" socks, 2 – 9 cases 16" x 20" pads (200 per case)

   Storage Location(s): Warehouse

   Type and Year Purchased: Complete Stand-alone Spill Kits

   Amount: 2-6 kits

   Storage Location(s): Warehouse

4. Hand Tools – Operational Status: Operational

   Storage Location: Tool Room

5. Communication Equipment (include operating frequency and/or cellular phone numbers):

   Operational Status: Operational

Type and Year:	Quantity:	Storage Location/Number:
2-way Radios	80	Personnel
Cellular Telephones	46	Personnel

6. Fire Fighting and Personnel Protective Equipment – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
Fire Fighting Truck – Pumper 500 gpm /250 gallon Water Tank 50 gallon ARC/AFFF Foam Tank	1	Firehouse
Fire Fighting Truck – Foam Spray 90 gpm Delivery Pump 1000 gallon XL 3% Foam	1	Firehouse
1000 gallon XL 3% Foam	1	Warehouse
Ambulance – 3 person 2-way radio First aid supplies, oxygen	1	Firehouse
SCBAs	10	Personnel

7. Other (e.g. Heavy Equipment, Boats, Motors, etc.) – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
Backhoe	1	Maintenance Yard
Dump Truck – 2.5 cubic yard capacity	1	Maintenance Yard
Road Grader	1	Maintenance Yard
Vac Truck – 80 barrel capacity	1	Maintenance Yard
Type and Year:	**Quantity:**	**Storage Location:**
Pick-up Trucks	6	Maintenance Yard
Front-end Loader	1	Maintenance Yard
55-Gallon Drums (empty)	50-200	Warehouse

8. Personal Protective Equipment: Operational

Type and Year:	Quantity:	Storage Location:
Hard Hats	1 per employee	Personnel
Rubber Boots	20	Environmental Building

Nitrile Gloves	2 bxs.	Environmental Building
Neoprene Gloves	2 bxs.	Environmental Building

9. Spill Trailer Inventory: Operational

Type and Year:	Quantity:	Storage Location:
CM Trailer (20x8)	1	Maintenance Yard
Generator	1	Spill Trailer
5 Gallon Gas Can (Type 5)	1	Spill Trailer
Round Point Shovel	5	Spill Trailer
Broom	3	Spill Trailer
Square Shovel	5	Spill Trailer
Mop Handle	2	Spill Trailer
Rake	2	Spill Trailer
Hoe	2	Spill Trailer
Tarp 10x12	1	Spill Trailer
Tarp 16x20	1	Spill Trailer
Reflective Vests	6	Spill Trailer
Traffic Cones	5	Spill Trailer
Barrier Fence	1	Spill Trailer
38 pc. Tool Set	1	Spill Trailer
Hand Carry Light	3	Spill Trailer
16" Ext. Ladder	1	Spill Trailer
Box Trash Liners	1	Spill Trailer
55 Gallon Container w/lid	1	Spill Trailer
Polypropylene Rope	1	Spill Trailer

Orange Flashlights	6	Spill Trailer
Eye and Skin Station	1	Spill Trailer
T Post Driver	1	Spill Trailer
5 Gallon Container	2	Spill Trailer
Navigator	1	Spill Trailer
50 ft. Extension Cord	2	Spill Trailer
Hand Cleaner	1	Spill Trailer
Boat w/motor	1	Spill Trailer

APPENDIX C

PLAN IMPLEMENTATION

This Section will detail how to implement the Gallup Refinery Facility's Emergency Response Plan by describing the Response Actions to be carried out under this plan to ensure the safety of the facility and to mitigate or prevent accidental discharges of oil (Petroleum Products).

This Section includes the Plans and Identification of Response Resources for Small, Medium, and Worst Case Spills; Disposal Plans; and Containment and Drainage Planning.

It also includes the calculations specified in Appendix E in 40 CFR 112.20 to determine the amount of response resources that must be available to the facility to respond to the spill scenarios identified in this plan.

IMMEDIATE ACTION PLAN

A. In the Event of a Spill at Gallup Refinery, the Emergency Response Immediate Response Actions will include the following at a minimum:

1. Shut off source of spill, if possible. Contact the Incident Commander/Qualified Individual.

2. Alert personnel in the area and evacuate nonessential personnel and customers upwind and uphill, if possible. Remove vehicles from the area if possible to do so safely.

3. Evaluate the Potential Hazards involved in the emergency and ensure the safety of response personnel through the use of protective equipment as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response.

4. Activate the Incident Command Post. The Initial Designated Command Post for Small, Medium and Worst Case Petroleum Spills is presently the Gallup Refinery Administration Building located at I-40, Exit 39. (See *Map 8 – Emergency Response Personnel and Equipment Assembly Area* at the end of this section).

   The Incident Commander, depending on the location and circumstances of the spill, will designate additional Staging Areas other than the Employee and Visitor Parking Lot West of the Administration Building and the Contractor Parking Lot South of the Administration Building.

5. Perform necessary Notifications of Gallup Refinery Spill Response Team Personnel, Federal, State and Local Environmental Compliance Response Agencies, and Contract Response Organizations.

6. Evacuate all Non-Essential Personnel: Customers, Building/Maintenance Contractors, Residents and Gallup Refinery Employees from the area.

7. Activate and Mobilize Gallup Refinery Facility Oil Spill Containment, Recovery, Storage and Disposal Equipment.

8. Select Proper Equipment to Minimize Sources Capable of Igniting Flammable Vapors as a result of a Petroleum Product Spill at any level.

9. Conduct the following Spill Response Activities:

   a. Trench and Dike any Culverts and Open Channels that would allow flowing Petroleum Product off Gallup Refinery's property.

   b. Construct Dams and Wiers in the washes to contain the spill there and attempt to prevent it from reaching the Rio Puerco. (See Spills on Land at the end of Section 1.7.1.)

   c. Deploy sand, sorbent pads and sorbent boom in the Secondary Containment Area to absorb spilled product .

10. Implement Countermeasures to include the following:

   a. Mitigate contamination of water supplies, if applicable.

   b. Establish neutralization procedures.

11. Collect and remove Crude Oil, Gasoline and/or Diesel fuel from the surrounding area using the following equipment and techniques, when applicable. (See *Figure 1.*)

   a. Backhoes

   b. Pumps

   c. Vacuum Trucks

   d. Oil Sorbents

   e. Physical/Chemical Treatment

12. Mitigate impact to Environmentally Sensitive Areas.

13. Reclaim, Treat and/or Dispose of Recovered Gasoline, Crude Oil and/or Diesel and Contaminated Materials in accordance with applicable Federal, State and Local Regulations.

B. During and After an Emergency Response Operation, appropriate Decontamination Procedures will be implemented under the direction of the Incident Commander.

Decontamination primarily consists of physically removing contaminants or changing their chemical nature to an innocuous substance in a controlled environment and manner. Prior to leaving the Contamination Zone, Gallup Refinery Oil Spill Response Personnel will have to undertake Decontamination Procedures as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response Procedures.

Factors to be considered in determining appropriate Decontamination Procedures specific to each Crude Oil, Gasoline and/or Diesel Fuel Spill Incident, include the following at a minimum:

1. Type of Contamination: The extent of contamination depends on the toxicological effects of the contaminants. Highly toxic or skin-destructive substances require a thorough decontamination method. The established Decontamination Procedures can be downgraded for less toxic contaminants.

    a. A Crude Oil, Gasoline and/or Diesel Fuel Spill will initially require Oil Spill Response Personnel to wear Level C Personal Protective Clothing and Equipment with established Level C Decontamination Procedures.

    b. Based upon Field Monitoring, Weather Conditions, Recovery Conditions, Time, etc. Gallup Refinery Oil Spill Response Personnel will be able to downgrade both their PPE and Decontamination Procedures to a Modified Level C for Oil (Petroleum Product) Spill, as outlined by OSHA.

2. Amount of Contamination: The amount of Crude Oil, Gasoline and/or Diesel Fuel spilled is initially determined visually, then verified analytically. Decontamination required for heavily contaminated shoreline response and cleanup.

3. Effectiveness: Immediate analytical methods to determine the effectiveness of decontamination are typically not available. Visual observations can be used to determine the adequacy of the decontamination. Discoloration, stains, corrosive effects and materials adhering to the surface may indicate the contaminants have not been properly removed.

4. Location: Decontamination should be performed in an area that will minimize exposure to uncontaminated employees and/or equipment. This area is commonly known as the Contamination Reduction Zone and/or Warm Zone.

5. Equipment: Typical equipment used for decontamination procedures includes brushes, detergent, pressurized water supply, containment pools, etc., all easily available. Equipment is typically decontaminated by scrubbing with detergent and/or water following by rinsing with water.

6. Heavy Equipment: Bulldozers, vacuum trucks, trucks, backhoes and other heavy equipment should be rinsed with water under high pressure in designated decontamination areas. Accessible parts including tires should be scrubbed with detergent and rinsed with water.

Evacuation Plans

In the event that circumstances necessitate an evacuation of the refinery or the surrounding vicinity, the person designated as the Emergency Coordinator is Ed Riege.

1. Location of Stored Materials:

Petroleum feedstock, intermediates, products, and other chemicals are stored in various tanks as shown on *Map 6 – Tank Locations and Contents at Gallup Refinery*. The largest concentration of storage is in the central Tank Farm. Several tanks are also located south of the Process Area and also near the tank truck loading rack. Drums and totes, containing various lubricants, chemicals, additives, and used oils, are also located within the warehouse and at various outdoor storage yards and points of usage within the refinery.

2. Hazard Imposed by Spilled Material:

Possible additional hazards imposed by spilled petroleum feedstock and products into and on the Gallup Refinery area include the following:

* Fire.
* Infiltrate and affect the surrounding ground water in the Gallup area.
* Vapor Cloud Explosion cause by pressurized hydrocarbons.
* Personnel exposure hazards including contact burns and toxic vapor inhalation.

3. Spill Flow Direction:

In the event that a spill occurs and escapes secondary containment, potential spill flow paths for various areas of the refinery are shown on *Map 2 – Spill Flow Direction at the Gallup Refinery*. In general, most spills will flow north or west. Spills that enter the refinery process sewer system will be captured at the Waste Water Treatment Unit. Other spills will migrate toward open ground and follow the natural slope and contour of the landscape.

4. Prevailing Wind Direction and Speed:

The prevailing wind direction in the vicinity of the refinery is west-to-east, however, east-to-west winds can occur as well. Orange colored wind socks are located throughout the refinery to aid in identifying the current local wind direction. Average wind speed is approximately 6 mph.

5. Water Currents, Tides, or Wave Conditions:

During times of moderate-to-heavy rainfall, the South Fork of the Rio Puerco flows from east-to-west; and is otherwise empty and dry.

6. Arrival Route of Emergency Response Personnel and Equipment:

The primary arrival route for off-site emergency responders is via the off-ramps and north-side access road at Exit 39 on Interstate 40. Emergency Response Personnel and Equipment

will arrive via the following routes: (See *Map 4 – Routes for Emergency Response Personnel & Equipment.*)

a. From the East, travel West on Interstate Highway 40 and turn north on Route 3 just past the Pilot Travel Center on the right side of the road. Proceed north to the Gallup Refinery entrance.

b. From the North, travel South on US Highway 660 to Interstate Highway 40 and turn east. Continue for approximately 7 miles and turn north on Route 3 just before the Pilot Travel Center. Proceed to the Gallup Refinery entrance.

c. From the West, travel East on Interstate Highway 40 and turn north on Route 3 just past the Pilot Travel Center on the right side of the road. Proceed north to the Gallup Refinery entrance.

7. Evacuation Route:

In the event of an Emergency Response Incident at the Gallup Refinery, two or four blasts will be sounded throughout the Refinery depending on the severity of the incident. In the event of a small incident, two blasts will sound and non-essential and transportation personnel as well as contractors and visitors will shelter-in-place until the Incident Commander verbally signals that the situation is under control. For a large incident, four blasts will sound and personnel exit through the front gate Guard House where they will be accounted for. They then proceed south to the bottom of the hill. (See *Map 5 – Evacuation Routes to Evacuation Assembly Area.*)

Refinery personnel have emergency duty assignments and will report to the Muster Station to respond to the incident unless the safety of these personnel is in danger. In this case, total evacuation may be necessary. Communication will be maintained between emergency crew leaders and the Incident Command Post. If the incident becomes life threatening, personnel will be evacuated to the Incident Command Post or a designated area and await further instructions.

Considerations to be taken for safe evacuation include:

* Location of the incident in relation to work area.
* Exit locations in relation to work area and location of the incident.
* Wind Direction.
* Type of Emergency: Fire, Vapor Release, Chemical Release, etc.
* Restricted access due to debris, downed power lines, etc.

The refinery control room will be evacuated only as a last resort and all automatic and fail-safe systems will be activated before doing so, unless otherwise instructed.

8. Alternative Route of Evacuation:

If the incident occurs in such a manner that employees cannot get to the main entrance, they are to exit through the Gates 2 - 5 and walk around the refinery to the Guard House to be accounted for. They may also use the Walkthrough Gate or the South Door Region Acct. Evacuation Route on the South Side of the complex and proceed to the Guard House. If the Guard House is impacted by the incident, a checkpoint will be established in a safe area south of the Guard House.

9. Transportation of Injured Personnel to Nearest Emergency Medical Facility:

Injured personnel will be transported to the Rehobeth McKinley County Hospital located at 1901 Red Rock Drive in Gallup via ground ambulance traveling along Interstate 40. The refinery owns and maintains an ambulance on-site. Helicopter air evacuation is also available, but must be requested by authorized personnel; including certified EMTs and the State Patrol.

10. Location of Alarm/Notification Systems:

If deemed necessary, the on-duty shift supervisor or Incident Commander may make use of the refinery steam whistle to signal an alert to other employees. This steam whistle may be activated from within the Boiler House. If the steam whistle is disabled, notice for evacuation will be communicated by telephone, radio or other means.

11. Centralized Check-in/Assembly Area for Evacuation Validation:

The centralized check-in location for evacuating personnel will be at the Guard House located near the entrance to the refinery.

12. Selection of Incident Command Post:

The Incident Command Post will be set up in the Conference Room in the Gallup Refinery Main Office located on Route 3. This post may be used to assist in coordinating emergency response activities and communicate with public authorities. An Operations Center will be set as close to the site of the spill as is deemed safe by the Safety Officer.

13. Optional Evacuation Shelter:

As an alternative to evacuation off-site, the Incident Commander in charge of the response may use the Refinery Main Office Building as an Assembly Area for the duration of the response, provided that it is safe to do so.

Containment and Drainage Planning

Spills in the Gallup Refinery are contained and controlled as follows.

The refinery follows industry standard practices for design, engineering, specification, fabrication, installation, operation, maintenance, inspection, and mechanical integrity.

In general, these standard practices are described in detail in the refinery Process Safety Management (PSM) Program. Description and documentation of this program is contained in files and materials located in the Technical Services Department.

General Prevention:

Prevention is the first line of defense against the occurrence of an emergency situation. In general, the probability of occurrence is reduced by the following methods.

1. Process equipment, vessels, tanks, and piping are engineered to safely and reliably contain applicable process fluids under normal operating conditions. The refinery utilizes appropriate industry standards and practices in the design, construction, and maintenance of all equipment.

2. Under abnormal operating conditions, process vessels, equipment, and piping are protected against overpressure and rupture by safety relief valves. Most safety relief valves vent into the refinery flare system.

3. Most petroleum storage tanks are constructed of carbon steel and protected against corrosion using appropriate surface coatings and in some cases an impressed electric current.

   All tanks are visually inspected annually for mechanical integrity. Detailed internal inspections are conducted at least once every ten years. Repairs are made as necessary.

4. Most underground piping is constructed of carbon steel, which is protected against corrosion by wrapping and surface coatings. Some of this piping is being phased out and will eventually be replaced with aboveground piping.

5. During regularly scheduled refinery turnaround maintenance outages, equipment, valves, and piping are inspected for mechanical integrity. Inadequate facilities are repaired or replaced.

6. Standard operating procedures are used as follows:

   a) Process surveillance rounds are conducted during each shift. Process equipment, vessels, tanks, piping, and grounds are visually inspected for signs of abnormal conditions, leakage, or spills. Spills are immediately reported to the Shift Supervisor and response action is initiated.

   b) Storage tanks are gauged daily and recorded. Tank inventory is checked against input and output quantities to detect potential leakage.

c) Portable storage tanks used within the refinery are located within secondary containment pads or dikes.

d) All loading and unloading operations are performed in compliance with DOT regulations and are attended full-time. Warning placards are placed in front of tank trucks to alert drivers that disconnection must be ensured prior to departure.

Spill Prevention Controls:

The following controls have been installed to contain potential spills and prevent off-site migration of a liquid release.

1. All petroleum storage tanks are located within full encirclement earthen containment dikes constructed of low permeability soil. All basins are sized to contain the maximum volume of the largest tank within the dike, plus allow an additional freeboard height of at least 6 inches. Most tank dikes are not equipped with drain lines or valves. Precipitation is infrequent and stormwater trapped within dike areas typically evaporates. Spills are typically removed via vacuum trucks or portable manually controlled pumping systems. Recovered material is transferred to a slop tank or the Waste Water Treatment Unit (WWTU), as appropriate.

2. Refinery processing units are located within the Process Area. Within this area, most vessels, pumps, piping, and related equipment are located within curbed containment pads. Most containment pads drain directly to the WWTU. Some containment pads drain to sealed collection sumps that can then be pumped to either a slop tank or the WWTU, as appropriate.

3. Loading and unloading stations are located within curbed containment pads equipped with sumps and drains. All loading and unloading stations drain to the WWTU or to collection sumps that can then be pumped to either a slop tank or the WWTU, as appropriate.

4. Portable containers located within the warehouse storage yard are handled as follows. Most drums and totes are placed within a secondary containment structure. Remaining drums and totes are located in an area of the yard that drains to the WWTU.

5. Transfer piping and other spill sources located within the refinery but outside of containment structures are located such that surface topography will cause spills will flow to various retention basins as shown on the Refinery Plot Plan.

6. Spilled material which accumulates in any retention basin is removed via portable skimmers and pumps, and then transferred to a either a slop tank or the WWTU, as appropriate

Containment and Diversionary Structures [112.7(c) and 112.7(a)(3)(iii)]

The facility is configured to minimize the likelihood of a discharge reaching navigable waters. The following measures are provided:

- Secondary containment for the oil storage tanks is provided by earthen berms that provide containment as described in Section 3.2.2 below. The berms are constructed of native soils and heavy clay that have been compacted. A clay layer in the shallow subsurface exists naturally and will stop any spilled oil from seeping to deeper groundwater.
- The tanker rack loading area is flat but gently slopes to the southwest, where a crescent-shaped, open berm has been placed to catch any potential spills from tanker transport trucks. The berm area provides a catchment basin of at least 40 barrels (1,680 gallons), the maximum expected amount of a spill from the tanker due to overtopping of the truck during loading. In addition, the end of the load line is equipped with a load line drip bucket designed to prevent small discharges that may occur when disconnecting the hose.
- Booms, sorbents, shovels, and other discharge response materials are stored in the guard building located in close proximity to the loading area. This material is sufficient to contain small discharges (up to approximately 200 gallons).

These measures are described in more detail in the following sections.

Facility Drainage [112.8(b)]
Facility drainage in the processing area is provided by separate process and storm sewers. Oily water entering the process sewer is routed to the new API separator for treatment. Water entering the storm sewers is routed to the old API separator. Water entering the old API separator is pumped into the new API separator. The area is inspected by facility environmental personnel on a daily basis during routine facility rounds, during formal monthly inspections, and after rain events, to detect any discoloration or staining that would indicate the presence of oil from small leaks within the facility. Any accumulation of oil is promptly removed and typically recycled back into the process. Formal monthly inspections are documented.

Discharges from ASTs are restrained by the secondary containment berms.

Construction (112.8(c)(1))
All oil storage tanks are field constructed and meet the American Petroleum Institute (API) tank construction standard. Their design and construction are compatible with the oil they contain and the temperature and pressure conditions of storage. Tanks storing crude or other oils are constructed of welded steel following API-12F *Field Constructed Tanks for Storage of Production Liquids* specifications. Steel tanks are coated to minimize corrosion. In some cases, impressed galvanic cathodic protection is used.

Secondary Containment for Bulk Storage Containers [112.8(c)(2)]
In order to further minimize the potential for a discharge to navigable waters, bulk storage containers such as all storage tanks are completely enclosed by earthen berms. The floor and walls of the berms are constructed of compacted earth with a layer of clay that ensures that the berms are able to contain the potential release of oil from the storage tanks until the discharge can be detected and addressed by field

operations personnel. Facility personnel inspect the berm areas monthly for the presence of oil and condition of the berms. A blank inspection form for the monthly secondary inspections is in Appendix C.

The berm capacity exceeds the SPCC and New Mexico requirements. It provides secondary containment sufficient for the size of the largest tank, plus at least one-half foot of freeboard to contain precipitation. This secondary containment capacity is equivalent to 130 percent of the capacity of the largest tank within the containment area (crude oil tank: 80,000 barrels). Gallup Refinery conducted an evaluation of the secondary containment berms in 1999. The results of the evaluation showed that the containment capacities are adequate in some of the cells. However, some cells were found to have insufficient containment capacity. The study provided details regarding heights the berms needed to be raised to meet containment criteria. In 2000, Gallup Refinery added clay to bring the berms up to the required heights. The details of the berm capacity calculations are provided in the Appendix J.

Drainage of Berm Areas (40 CFR 112.8(c)(3))
Most berms are not equipped with drain lines because precipitation is infrequent and storm water trapped within the berms typically soon evaporates.

Berms where drain valves are provided for the containment structures are opened and resealed following drainage under the responsible supervision of field operations personnel. Free oil, if any, is promptly removed and disposed of in accordance with waste regulations.

Practicability of Secondary Containment [112.7(d)]
Gallup Refinery management has determined that secondary containment is practicable at this facility and therefore a contingency plan is not necessary for spill management. Storage tanks and refining process equipment is provided with adequate secondary containment in the form of earthen berms, concrete dikes, and or concrete curbing.

Other Spill Prevention Measures

Overfill Prevention Systems [112.8(c)(8)]
Storage tanks in the marketing tank farm are provided with over-fill protection devices consisting of high liquid level alarms with an audible or visual signal display in the boiler room. The ASTs in the remainder of the tank farm are equipped with vision gauges with laboratory tank gauge personnel monitoring gauges and the overall filling of the AST. The gauge monitors the level of each tank on a daily basis. Records of tank level observations are maintained in the Laboratory.

The liquid level sensing devices in the marketing tank farm are inspected on a regular schedule.

Effluent Treatment Facilities (40 CFR 112.8(c)(9))
The facility's process waste water is routed to an API separator for oil-water separation. Separated water is pumped from the API separator to two air stripping towers for treatment removal of benzene. The treated waste water is then discharged into aeration lagoons for intense biological treatment. Water is routed from the lagoons into a system of evaporation ponds. All of the treated water is evaporated in the evaporation ponds so no treated water leaves the site.

Currently, storm water from the process area is routed to an old API separator to remove any oil that may be in it. The water is pumped into the new API separator so it may be passed through benzene strippers. The treated storm water also then is passed onto the aeration lagoons and evaporation ponds. In the

future, the storm water will be routed to two large existing tanks. Water will be pumped from the tanks to the new API separator for treatment.

Visible Discharges (40 CFR 112.8(c)(10))
Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, - are corrected quickly upon discovery.

Oil will be removed promptly from within dike/berm areas and is recycled back into the refining process or disposed of according to the waste disposal method of this plan.

Mobile and Portable Containers (40 CFR 112.8(c)(11))
Lubricating oil and other substances, such as solvents and chemicals, are also stored at the facility at various locations in various sizes of drums and small tanks or totes. Table 1-3 lists the oil materials stored in drums and small tanks/totes at the facility. These are stored inside buildings either away from doors or in areas with sloped floors such that spillage would be retained inside the building. In the event that spillage would occur, it would be quickly contained and cleaned up using sorbent pigs and pads.

Transfer Operations [112.8(d)]
Process surveillance rounds are conducted each shift by lab personnel. The various activities required in the oil movement areas are controlled from the refinery laboratory. The laboratory foreman is responsible for all transfers of product or components during each working shift. The oil pumper/gauger receives direction from the laboratory foreman.

Components of the storage tanks are inspected on a monthly basis by field operation personnel and following the checklist provided in Appendix D of this SPCC Plan.

Disposal Plan

All disposal methods, practices, and analysis will be performed in accordance the State of New Mexico Regulation (20NMAC Chapter 7 and Chapter 9) and will comply with applicable state, federal, and local regulations.

The cleanup contractor will handle the disposal of any recovered product, contaminated soil, contaminated materials and equipment, decontamination solutions, sorbents, and spent chemicals collected during a response to a discharge incident.

Any recovered product that can be recycled will be placed into the slop oil tank. Any recovered product not deemed suitable for on-site recycling will be disposed of with the rest of the waste collected during the response efforts.

If the facility responds to a discharge without involvement of a cleanup contractor, Gallup Refinery will contract a licensed transportation/disposal company to dispose of waste according to regulatory requirements. The Environmental Specialists will characterize the waste and arrange for the use of certified waste containers.

All facility personnel handling hazardous wastes must have received both the initial 40-hour and annual 8-hour refresher training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) of the Occupational Health and Safety Administration (OSHA). This training is included

as part of the initial training received by all field personnel. Training records and certificates are kept at the environmental engineer's office.

A. This section will describe how and where the Gallup Refinery Facility Spill Response Team intends to Recover, Reuse, Decontaminate, or Dispose of Materials after an Accidental Discharge of Petroleum Products at the Gallup Refinery Facility.

Spill clean-up materials shall be disposed in accordance with applicable state, federal and local laws and regulations. Specific materials shall be handled as follows.

1. Recovered product shall be placed in an appropriate slop oil tank and recycled through the refinery. If the recovered product is contaminated with water or solids, it shall first be treated in the API separator prior to being recycled.

2. Petroleum Contaminated Soil shall be disposed off-site at an appropriate landfill. Petroleum Contaminated Soil (PCS) may be treated on-site using a land farm technique; upon approval and authorization of appropriate agencies.

3. Contaminated equipment and materials, including tanks, drums, roll-off boxes, hoses, shovels, etc., shall be washed with an appropriate cleaning solution at the conclusion of the spill response.

4. Reusable PPE shall be washed with an appropriate cleaning solution at the conclusion of the spill response. Non-reusable PPE shall be placed in disposal drums or bins and disposed off-site at an appropriate landfill.

5. Decontamination solutions (wash water) shall be treated at the Waste Water Treatment Unit (WWTU) if appropriate. Alternately, decontamination solutions shall be drummed and sent off-site for appropriate treatment and disposal.

6. Adsorbent pads and similar oil-soaked materials shall be placed in disposal drums or bins and disposed off-site at an appropriate landfill.

7. Spent chemicals shall be placed in appropriate drums, totes, or tanks and disposed as per applicable laws and regulations.

B. The following are Liquid Waste Handling and Disposal Techniques that can and will be utilized by the Gallup Refinery Facility Emergency Response Team in the event of a Petroleum Spill at the Gallup Refinery Facility.

1. <u>Available Temporary Storage Devices:</u>

* vacuum trucks
* road tankers (3)

2. <u>Disposal Options:</u>

* Transport off-site to a Federal/State approved waste oil processor for recycle/reuse.
* If hazardous waste is involved, Licensed Hazardous Waste Transporters will be

retained to transfer hazardous wastes to Licensed Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF) for proper treatment and/or disposal.

3. Petroleum Contaminated Solid Waste Profile:

* Oil contaminated sorbent material (pads, booms, sweeps, particulate, etc.).
* Contaminated organic material (peat moss, straw, hay, fiber perl, etc.).
* Shoreline and marsh debris (drift wood, sea-weed, grass, garbage).
* Oily sand and mud.
* Oil contaminated rocks, shells and rip-rap used for erosion control.
* Oil saturated items such as protective suits, boots, gloves, rope, plastic bags, and rags.

4. Handling and Storage Techniques:

* Dump trucks (temporary only).
* On-site pits (permitted only) construct temporary lined pits (with Federal/State approval only).
* Dumpsters for non-hazardous debris only (paper, cans, bottles, etc.).
* Six (6.0) mil plastic bags with wire ties.

5. Solid Waste Characterization and Profile:

* Facility to receive, separate/sort, and store solid waste.
* Reduce waste volume by shredding, adding absorbent material to stabilize free liquids.
* Back-hoe or front-end loader to facilitate segregation activities.

6. Analytical Support:

* Pre-qualify local laboratory for waste sample analysis.
* Local lab to supply necessary sample equipment and chain of custody forms.
* Set up for fast turn-a-rounds on results.
* Pre-approve analytical (TCLP, PCB, BTU, etc.)

7. Disposal Site Selection:

* Contact local disposal facilities for waste acceptance (liquids, solids, sanitary, etc.).
* Ensure State and Federal approvals are in order.
* Research transportation requirements.
* Analytical results on waste streams available for disposal facility review and approval.

8. Free Liquids (Oil and Water):

* Consider all oil and oil emulsions for possible recycle/reuse.
* Research local waste oil recycling firms in area. Ensure State/Federal approvals are in order.

9. Oil Absorbent Materials (Petroleum Waste/Solid Waste) (Refer: 20NMAC 9.2)

* Petroleum generated waste (solid waste) resulting from spill cleanup.
* Research new technology as it pertains to recycling used oil absorbent material.
* Set up pad wringer stations throughout the spill work site where sorbents are being used. Sorbent pads can be used up to four to five times before losing their oil absorbing property.
* Sorbent booms and sweeps should be double bagged and separated from other solid waste items. Once recycling firm has been located, ship direct from spill site to the recycling facility.
* Ensure compliance with State and Federal recycling guidelines, if any.

10. Oil Contaminated Sand and Gravel (Petroleum Waste/Solid Waste)(Refer: 20NMAC 9.2)

* Petroleum generated waste (solid waste) resulting from spill cleanup.
* Research available commercial sand and gravel cleaners.
* Have pre-approved lab set up analytical, if required by regulations.
* Train shoreline clean-up team not to remove excessive amounts of sand or beach front.

11. Oil Contaminated Debris (Petroleum Waste/Solid Waste) (Refer: 20NMAC 9.2)

* Petroleum generated waste (solid waste) resulting from spill cleanup.
* Seek approval from state or federal representative on-scene to allow stacking of contaminated debris and pressure washing to remove oil clinging as opposed to hauling off-site for disposal.

12. Petroleum Contaminated Soils (Special Waste) (Refer: 20NMAC 9.2)

* Petroleum generated waste (solid waste) resulting from spill cleanup.
* Seek approval from state or federal representative on-scene to hauling off-site for disposal.

Disposal Plan

Material	Disposal Facility	Location	RCRA Permit/ Manifest

Response Resources for Small, Medium and Worst Case Spills

A. In order to determine that amount of response resources needed for both recovery of oil on water and on shorelines, the following calculations have been made.

The effective daily recovery capacity for the removal capacity for the Gallup Refinery Crude Oil (Group 3 oil) a skimmer pump (1000 gpm) is the following:

R = T x 24 hours x E

Where R is the Effective Daily Recovery Capacity,
T is the Throughput in barrels/hour
E is the Efficiency factor (10% in this case).

R = 1,428 bbls/hour x 24 hours x .10
R = 3,427 bbls/day

The Worst Case Discharge for this facility is 81,000 barrels of Crude Oil (Group 3).

With the numbers from Table 2, it is determined that 81,000 barrels of oil will provide the following results:

Crude Oil (Group 3)

81,000 barrels x 20% Natural Dissipation = 16,200 barrels
81,000 barrels x 15% Recovered Floating Oil = 12,150 barrels
81,000 barrels x 65% Oil Onshore = 52,650 barrels

For Floating Oil, an Emulsification Factor is added:

Crude Oil

12,150 barrels Recovered Floating Oil x 2.0 Emulsification Factor = 24,300 barrels

Table 4 provides Water On Oil Recovery Resources Mobilization Factors based on the appropriate operating area and response tier. For the Gallup Refinery, these calculations are:

Tier 1 12,150 barrels (EDRC x 12 hours) x .30 = 3,645 barrels/day
Tier 2 12,150 barrels x .40 = 4,860 barrels/day
Tier 3 12,150 barrels x .60 = 7,290 barrels/day

For Shoreline Cleanup Capacity needed, the following calculations are done:

52,650 barrels Total Volume x 2.0 Emulsification Factor = 105,300 barrels

H2O OSRO is the contracted response contractor for Western Refining, Inc. – Gallup Refinery. A complete list of their inventory can be found in Section 1.3.4 of this plan. Their inventory is adequate to respond to the Gallup Refinery's spill needs.

B. In the Event of a Spill at the Gallup Refinery, the Emergency Response Immediate Response Actions will include the following at a minimum:

1. Shut off source of spill and stop product flow, if possible. Notify the Shift Supervisor. Evaluate the Potential Hazards involved in the emergency and ensure the safety of response personnel through the use of protective equipment as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response.

2. Warn Personnel and enforce safety and security procedures. Attend to any injured persons.

3. Order all Non-Essential Personnel to leave the area including: Customers, Building/Maintenance Contractors, and Gallup Refinery Employees. Prevent unauthorized personnel and vehicles from entering the area.

4. An Incident Commander shall assume leadership of the situation and activate the Incident Command Post. The Initial Designated Command Post for Small, Medium and Worst Case Spills is presently the Gallup Refinery Main Office located at 50 County Road 4990. (See *Map 8 – Emergency Response Personnel and Equipment Assembly and Staging Areas* at the end of this section). In addition, the following actions should be taken:

   a. Assure that all affected personnel have been alerted. If appropriate, sound a general alarm.

   b. Assess the situation and determine basic information including:
      Type of material spilled
      Exact source
      Estimated amount
      Extent of spread and direction of flow, if any

   The Incident Commander, depending on the location and circumstances of the spill, will designate additional Staging Areas other than the Parking Lot South of the Main Office and the Parking Lot South of the Regional Office Building.

5. Perform necessary Notifications of Gallup Refinery Spill Response Team Personnel, Federal, State and Local Environmental Compliance Response Agencies, and Contract Response Organizations including H2O OSRO.

6. Notify Downstream Water Users of the spill.

7. Activate and Mobilize the Gallup Refinery Facility Oil Spill Containment, Recovery, Fire Fighting, Storage and Disposal Equipment.

8. Select Proper Equipment to Minimize Sources Capable of Igniting Flammable Vapors as a result of a Petroleum Spill at any level.

9. Conduct the following Spill Response Activities:

   a. Trench and Dike of any Culverts and Open Channels that would allow flowing Petroleum Product off the Gallup Refinery property.

   b. Construct Dams and Wiers in the affected washes to contain the spill there and attempt to prevent it from reaching the Rio Puerco. (See *Spills on Land* in this section.)

   c. Deploy sand, sorbent pads and sorbent boom in affected areas and potential waterways in the path of the spill to absorb spilled product .

10. Implement Countermeasures to include the following:

   a. Mitigate contamination of water supplies, if applicable.

   b. Establish neutralization procedures.

11. Collect and remove spilled product from the surrounding area using the following equipment and techniques, when applicable. (See *Figure 10.*)

   a. Backhoes

   b. Pumps

   c. Vacuum Trucks

   d. Oil Sorbents

   e. Physical/Chemical Treatment

12. Mitigate impact to Environmentally Sensitive Areas.

13. Reclaim, Treat and/or Dispose of Recovered Product and Contaminated Materials in accordance with applicable Federal, State and Local Regulations.

C. During and After an Emergency Response Operation, appropriate Decontamination Procedures will be implemented under the direction of the Incident Commander.

Decontamination primarily consists of physically removing contaminants or changing their chemical nature to an innocuous substance in a controlled environment and manner. Prior to leaving the Contamination Zone, Gallup Refinery Oil Spill Response Personnel will have to undertake Decontamination Procedures as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response Procedures.

Factors to be considered in determining appropriate Decontamination Procedures specific to each Spill Incident, include the following at a minimum:

1. Type of Contamination: The extent of contamination depends on the toxicological effects of the contaminants. Highly toxic or skin-destructive substances require a thorough decontamination method. The established Decontamination Procedures can be downgraded for less toxic contaminants.

   a. A Petroleum Spill may initially require Oil Spill Response Personnel to wear Level C Personal Protective Clothing and Equipment with established Level C Decontamination Procedures.

   b. Based upon Field Monitoring, Weather Conditions, Recovery Conditions, Time, etc. Gallup Refinery Oil Spill Response Personnel will be able to downgrade both their PPE and Decontamination Procedures to a Modified Level C for Oil (Petroleum Product) Spill, as outlined by OSHA.

2. Amount of Contamination: The amount of product spilled is initially determined visually, then verified analytically. Decontamination will be required for heavily contaminated shoreline response and cleanup.

3. Effectiveness: Immediate analytical methods to determine the effectiveness of decontamination are typically not available. Visual observations can be used to determine the adequacy of the decontamination. Discoloration, stains, corrosive effects and materials adhering to the surface may indicate the contaminants have not been properly removed.

4. Location: Decontamination should be performed in an area that will minimize exposure to uncontaminated employees and/or equipment. This area is commonly known as the Contamination Reduction Zone and/or Warm Zone.

5. Equipment: Typical equipment used for decontamination procedures includes brushes, detergent, pressurized water supply, containment pools, etc., are all easily available. Equipment is typically decontaminated by scrubbing with detergent and/or water following by rinsing with water.

6. Heavy Equipment: Bulldozers, vacuum trucks, trucks, backhoes and other heavy equipment should be rinsed with water under high pressure in designated decontamination areas. Accessible parts including tires should be scrubbed with detergent and rinsed with water.

APPENDIX D

DESCRIPTION OF AGREEMENT WITH LOCAL AUTHORITIES-

Description of agreement with local authorities is currently being revised.

APPENDIX E

WRITTEN AGREEMENT WITH LOCAL RESPONDERS

A written agreement with local responders is currently being revised.

APPENDIX F

Figure 1: Regional Map

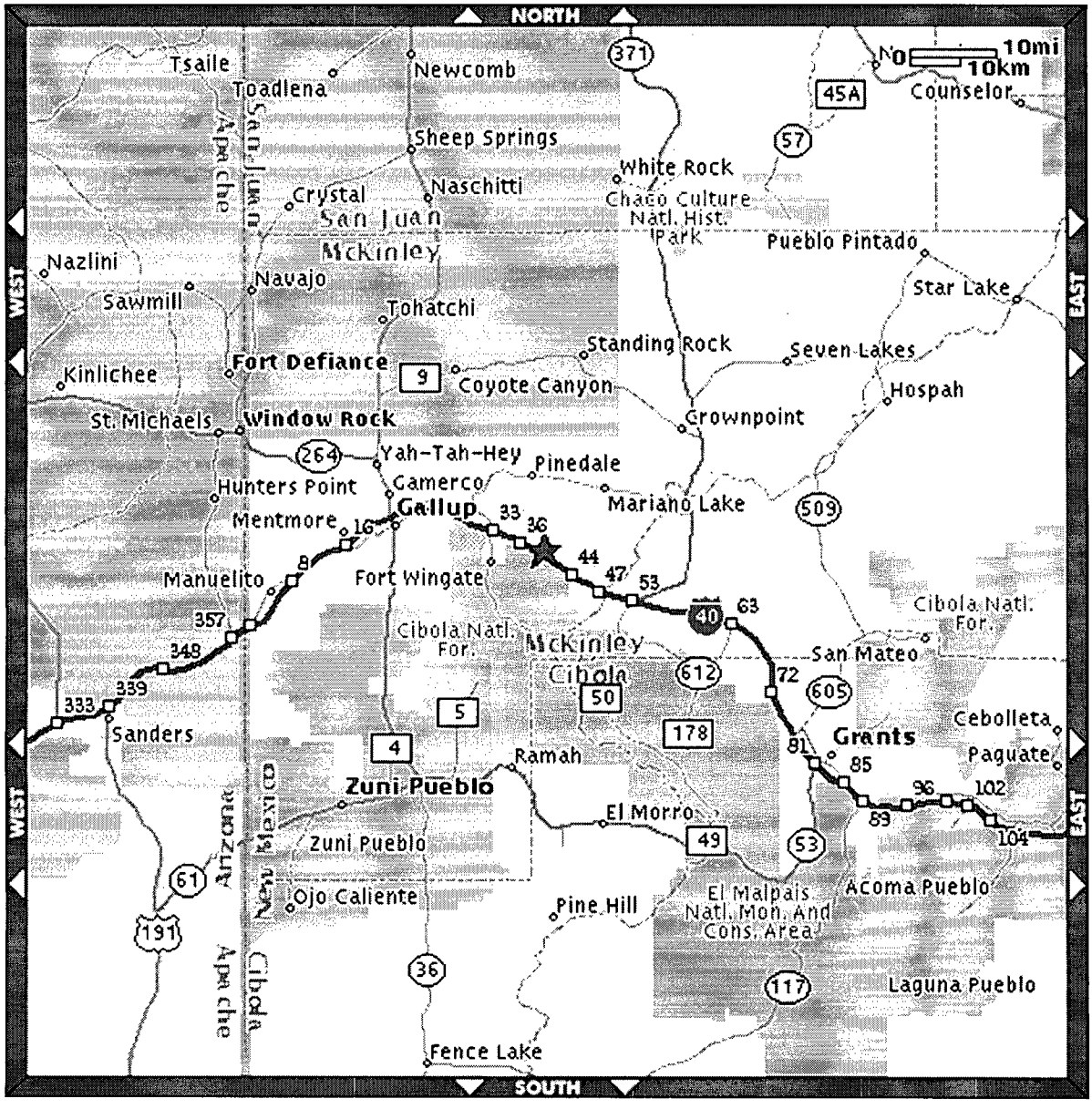
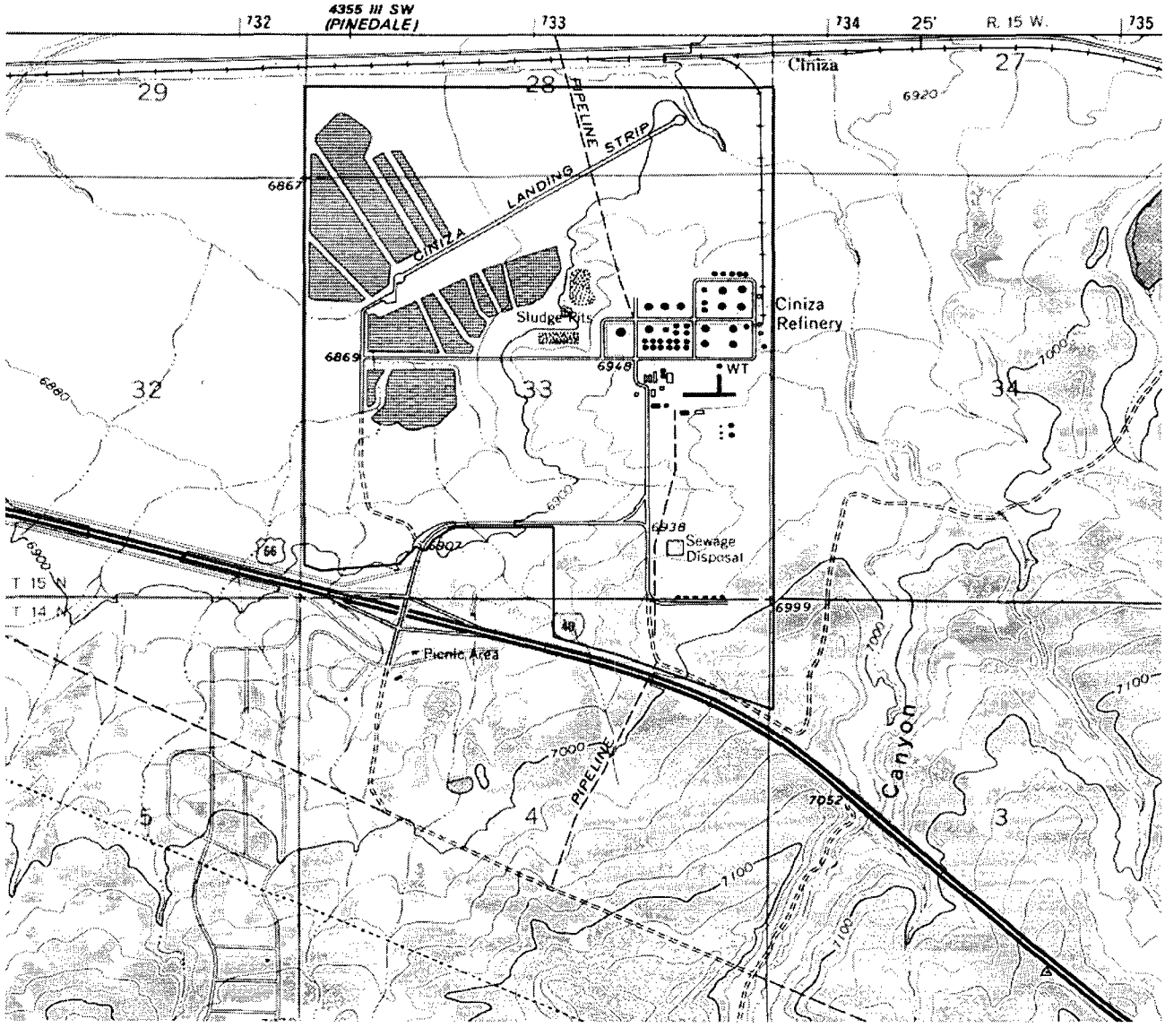
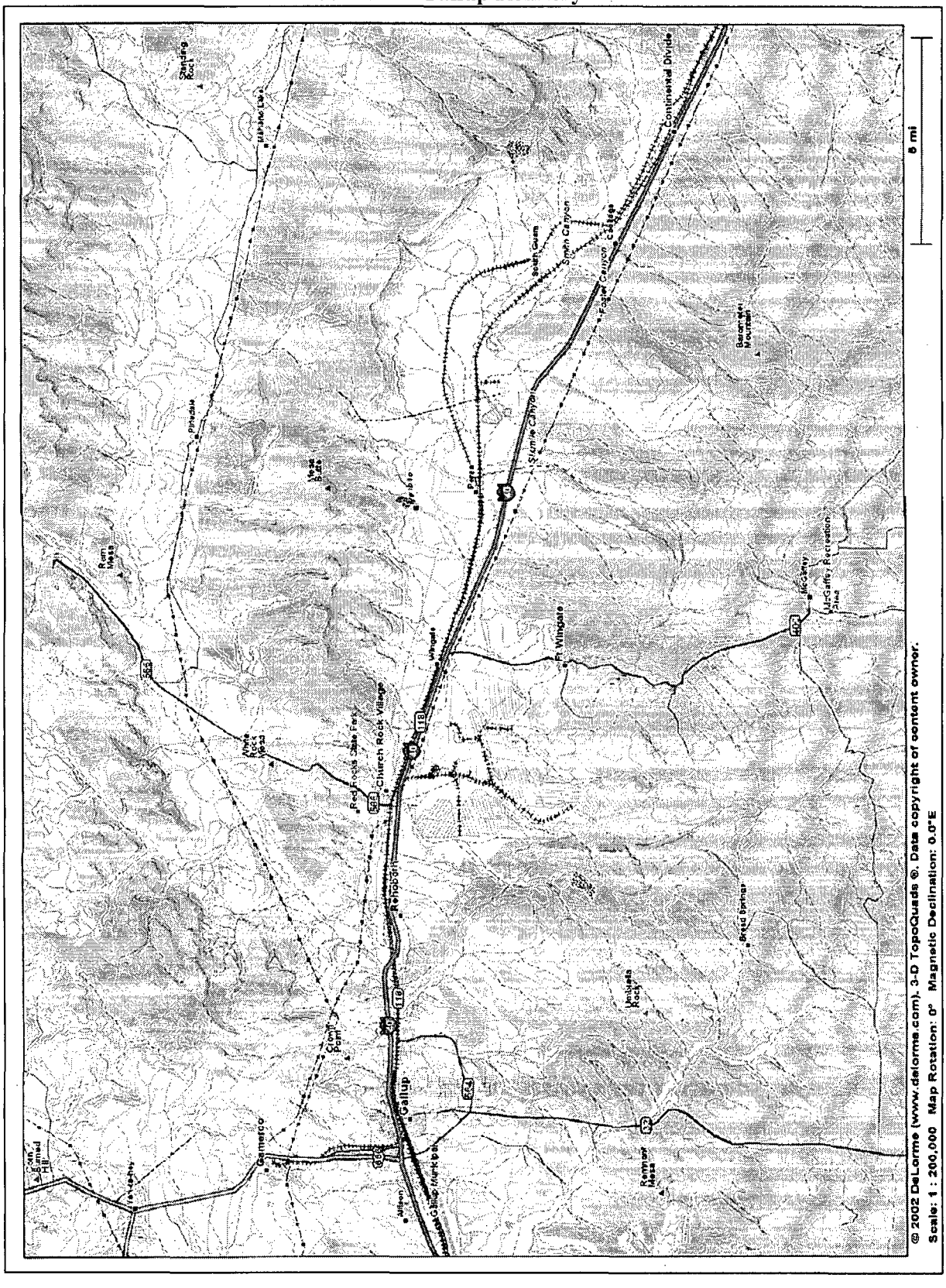


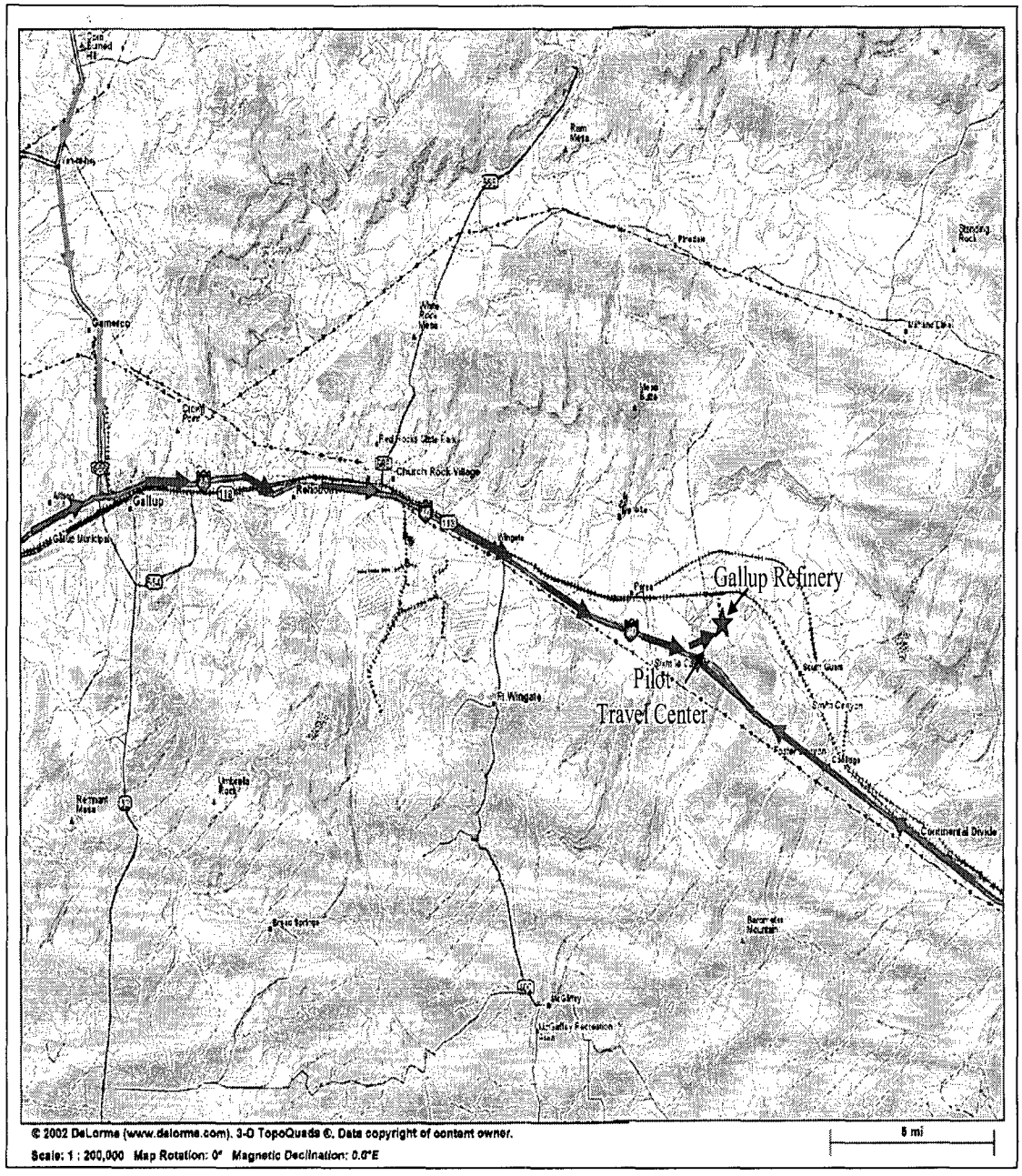
Figure 2: Overall Site Map
USGS Topographical Map - Ciniza Quadrangle (Revised 1980)



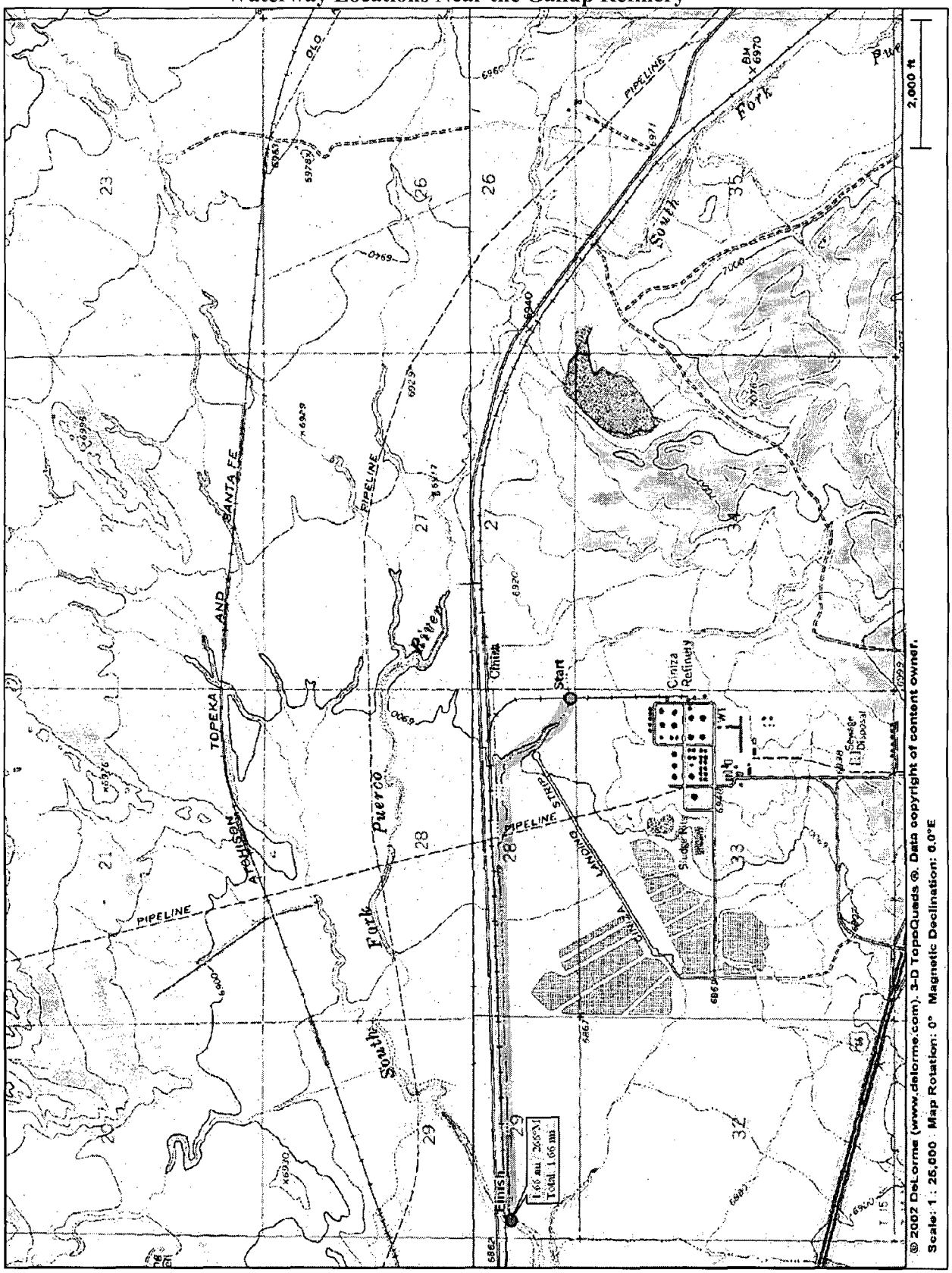
Location of Gallup Refinery

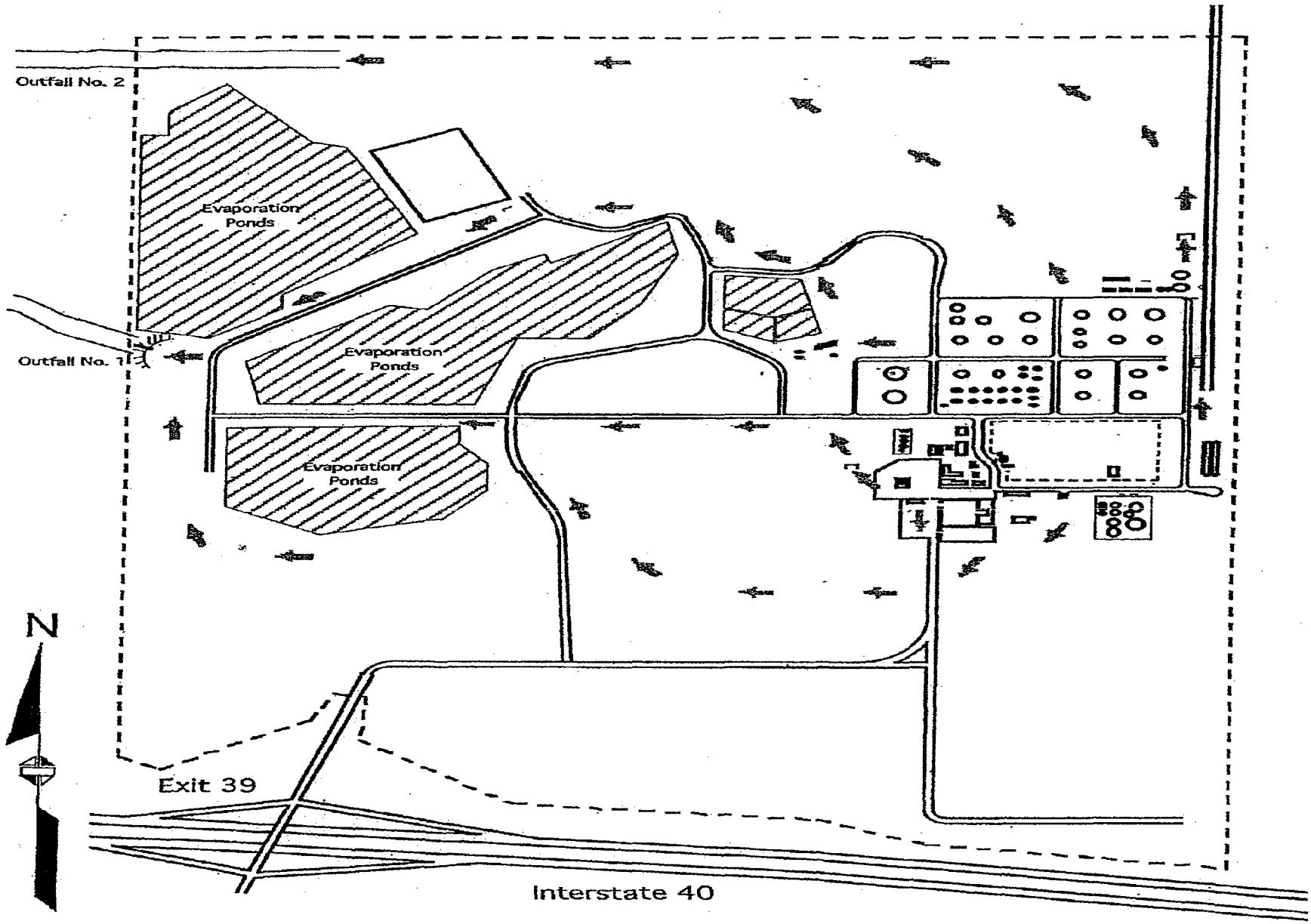


Routes for Emergency Response Personnel and Equipment



Waterway Locations Near the Gallup Refinery




Outfall No. 2
Evaporation Ponds
Outfall No. 1
Evaporation Ponds
Evaporation Ponds
N
Exit 39
Interstate 40

GALLUP REFINERY STORAGE TANK TABLE

Count #	TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	TANK DIAMETER	TANK HEIGHT/ LENGTH	Dia - ft	Height (ft)	Volume (bbls) Calculated from	PRODUCT	NEXT EXTERNAL INSPEC.	NEXT INTERNAL INSPEC.	TANK STYLE	FLOOR STYLE		CONTAINMENT STYLE	Compacting of Soils or Concrete Containment by 10/1/09 IF Action is Required			Auto Tank Gauging System (>10,000 gallons) if Hydrocarbon or Chemical Storage			Comments on Work Progress as of January 28,2009
													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
									2008													
1	P-V19A	1957	668.7 ft^3	30'	LTH-147'-5"	30.0	147.4		HYDROGEN GAS	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
2	P-V19B	1957	668.7 ft^3	30'	LTH-147'-5"	30.0	147.4		HYDROGEN GAS	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
3	P-V19C	1957	668.7 ft^3	30'	LTH-147'-5"	30.0	147.4		HYDROGEN GAS	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
4	TK-115	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2008	2008	Cone	Double	Mar-08	Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Mar-09	Installation Complete
5	TK-2	1965	4,000	30'-0"	32'-0"	30.0	32.0	4,029	UNLEADED PREMUM	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Mar-09	Installation Complete
6	TK-228	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	K-1	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Feb-09	Installation Complete
7	TK-4	1970	3,800	30'-5"	32'-0"	30.4	32.0	4,141	83.0 OCTANE	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Feb-09	Installation Complete
8	TK-446	1945	700	8'11"	62'-11"	8.9	62.9	700	OLEFINS/ISO BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Apr-09	Installation Complete
9	TK-447	1957	1,373	11'-9"	LTH-71'-1"	11.8	71.1	1,373	ISO-BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Mar-09	Installation Complete
10	TK-555	1974	2,073	131.875"	LTH-122'8 1/2"	11.0	122.7	2,073	ISO-BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Feb-09	Installation Complete
11	TK-560	1957	2,300	11'-9"	LTH-69'-11"	11.8	69.9	1,350	BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	Dec-09	Dec-09	Installation Complete
12	TK-564	1957	5,000	30'-0"	40'-0"	30.0	40.0	5,036	NAT.GASOLINE/ISOMERATE	2008	2008	Elyps.	Single		Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Feb-09	Installation Complete
13	TK-565	1957	5,000	30'-0"	40'-0"	30.0	40.0	5,036	ISOM/NAT GASO/TOL	2008	2008	Elyps.	Single		Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Feb-09	Installation Complete
14	TK-575	1957	10,000	42'-6"	40'-0"	42.5	40.0	10,106	JET-A/K1	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Dec-09	Installation Complete
									2009													
15	TK-102	1991	80,000	110'-0"	48'-0"	110.0	48.0	81,242	CRUDE	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	Nov-09	Installation Complete
16	TK-106	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	Aug-09	Installation Complete
17	TK-18570		54	8'-0"	6'-0"	8.0	6.0	54	NALCO 7359	2009	2009	Cone	Single		Soil/Gravel	Yes	n/a	OOS	OOS	n/a	n/a	removed from service
18	TK-18571		54	8'-0"	6'-0"	8.0	6.0	54	NALCO 7359	2009	2009	Cone	Single		Soil/Gravel	Yes	n/a	OOS	OOS	n/a	n/a	removed from service
19	TK-5	1963	1,800	21'-6"	28'	21.5	28.0	1,810	ETHANOL	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	Nov-09	Installation Complete
20	TK-563	1986	20,000	60'-0"	46'-6"	60.0	46.5	23,416	NAT. GASOLINE	2009	2009	Elyps.	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	May-09	Installation Complete
21	TK-7	1946	330	77"	LTH-66'-0"	6.4	66.0	380	ISOMERATE	2009	2009	Bullet	Elevated	n/a	Concrete	No	n/a	n/a	OOS	2009	n/a	Condemned- out of service
22	TK-581	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	LCO	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013	Jun-09	moved up - Gauge Installation Complete
23	TK-567	1969	20,000	60'-0"	40'-0"	60.0	40.0	20,143	83.O UNLD. REG.	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016	May-09	moved up - Gauge Installation Complete
24	TK-912		188	8'-0"	21'-0"	8.0	21.0	188	Add. Gasoline (6331)	2009	2009	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
25	TK-913		206	9'-11"	15'-0"	9.9	15.0	206	Add. Gasoline (NAP 96)	2009	2009	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
26	Z81-T1	1998	1,000	21'-3"	16'-0"	21.3	16.0	1,011	TREATED WATER	2009	2009	Cone	Single		Concrete	No	n/a	n/a	No	n/a	n/a	no level gauge work required
27	Z81-T9		60	6'-0"	12'-0"	6.0	12.0	60	DIESEL	2009	2009	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2010													
28	Q-T2	1956	112	10'-0"	8'-0"	10.0	8.0	112	CAUSTIC	2010	2010	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
29	Q-T8	1963	226	11'-9"	11'-8"	11.8	11.7	225	CAUSTIC	2010	2010	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
30	TK-1001		72	5'-4"	18'-0"	5.3	18.0	72	DIESEL TANK	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
31	TK-1002		72	5'-4"	18'-0"	5.3	18.0	72	GASOLINE TANK	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
32	TK-1003		57	5'-9"	12'-3 1/2"	5.8	12.3	57	DIESEL POUR POINT ADDITIVE	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
33	TK-1004		112	7'-5"	14'-7 1/2"	7.4	14.6	112	DIESEL LUBRICITY ADDITIVE	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
34	TK-556	1957	718	9'-2 3/4 "	LTH-53'-10"	9.2	53.8	641	PROPANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	12/08	Feb-10	Installation Complete
35	TK-345	1977	20,000	60'-0"	42'-0"	60.0	42.0	21,150	REFORMATE/ETOH	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010	Jul-10	Installation Complete
36	TK-3	1965	4,000	30'-0"	32'-0"	30.0	32.0	4,029	87.0 OCTANE	2010	2015	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2015	Feb-10	Installation Complete
37	TK-1	1965	3,000	30'-0"	24'-0"	30.0	24.0	3,021	DIESEL	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016	Feb-10	Installation Complete
38	TK-705	1963	10,000	47'-4"	31'-1"	47.3	31.1	9,741	FUEL OIL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012	Jul-10	Installation Complete
39	TK-27	1979	5,000	33'-5"	32'-0"	33.4	32.0	4,998	PROCESS/ STORM WATER	2012	2017	Cone	Single	Nov-10	Soil/LDPE	Yes	n/a	future	YES	2010	Dec-10	Installation Complete
40	TK-28	1979	5,000	33'-5"	32'-0"	33.4	32.0	4,998	PROCESS/ STORM WATER	2012	2017	Cone	Single	Nov-10	Soil/LDPE	Yes	n/a	future	YES	2010	Dec-10	Installation Complete
41	TK-35	2010	30,000	78'-0"	32'-0"	78.0	28.0	23,829	PROCESS/ STORM WATER	2015	2020	Cone	Double	Dec-10	Soil/LDPE	Yes	n/a	future	YES	2010	Dec-10	Installation Complete
42	TK-569	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	83.O UNLD. REG.	2012	2017	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2017	Apr-10	Installation Complete

GALLUP REFINERY STORAGE TANK TABLE

Count #	TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	TANK DIAMETER	TANK HEIGHT/ LENGTH	Dia - ft	Height (ft)	Volume (bbls) Calculated from	PRODUCT	NEXT EXTERNAL INSPEC.	NEXT INTERNAL INSPEC.	TANK STYLE	FLOOR STYLE		CONTAINMENT STYLE	Compacting of Soils or Concrete Containment by 10/1/09 IF Action is Required			Auto Tank Gauging System (>10,000 gallons) if Hydrocarbon or Chemical Storage			Comments on Work Progress as of January 28,2009
													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
									2011													
43	TK-703	1963	25,000	67'-0"	39'-8"	67.0	39.7	24,907	RESIDUE/FCC FEED	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009		delayed -Tank must be out of service to
44	TK-235	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
45	TK-337	1977	20,000	60'-0"	42'-0"	60.0	42.0	21,150	ETHANOL	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		
46	TK-448	1957	1,373	11'-9"	LTH-71'-1"	11.8	71.1	1,373	ISO-BUTANE	2010	2010	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
47	TK-570	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	87.0 UNLD REG.	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
48	TK-576	1968	40,000	85'0"	40'-0"	85.0	40.0	40,425	PREMUM BASE	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
49	TK-108	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	ALKLATE	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
50	TK-342	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	ETHANOL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
51	TK-706	1963	10,000	47'-5"	32'-1"	47.4	32.1	10,090	FUEL OIL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
52	TK-707	1963	1,000	26'-6"	17'-7"	26.5	17.6	1,727	SLOP OIL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
53	TK-714	1969	30,000	73'-4"	40'-0"	73.3	40.0	30,090	FCC FEED	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
54	Z81-T10	1957	63	5'-0"	18'-0"	5.0	18.0	63	CAUSTIC	2011	2011	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
55	Z81-T6	1962	880	20'-6"	17'-6"	20.5	17.5	1,029	DOMESTIC WATER	2011	2011	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
56	A-V61.1		140	8'-0"	16'-0"	8.0	16.0	143	CAUSTIC	2011	2011	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2012													
57	TK-701	1963	37,000	88'-6"	33'-10"	88.5	33.8	37,067	FCC FEED	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
58	Q-T6		29,800	63'-5"	53'-0"	63.4	53.0	29,814	DRAIN HOLDING TK	2012	2012	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
59	TK-557	1957	718	9'-2 3/4 "	LTH-53'-10"	9.2	53.8	641	PROPANE	2012	2012	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2012		
60	TK-702	1963	25,000	67'-0"	40'-5"	67.0	40.4	25,378	FCC FEED	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012		
61	TK-709	1963	1,000	22'-6"	14'-9"	22.5	14.8	1,045	RESIDUE	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012		
62	Z81-T15		80	5'-7.75'	18'-0"	5.6	18.0	80	DIESEL	2012	2012	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
63	Z84-T105	2001	400	12'-0"	20'-0"	12.0	20.0	403	SLOP OIL	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012		
64	Z86-T1	1966	5,000	30'-0"	40'-0"	30.0	40.0	5,036	RAW WATER	2012	2012	Cone	Single		Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
65	Z86-T2	2002	10,832	44'-0"	40'-0"	44.0	40.0	10,832	RAW WATER	2012	2012	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
66	Foam Tk		10	36"	7'-0"	3.0	7.0	9	Fire Fighting Foam Concentrate	2012	2012	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
67	SR-T10		20	48"	8'-10"	4.0	8.8	20	CA-299 SETTLING AGENT	2012	2012	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2013													
68	SR-T4	1992	106	10'-4"	7'-1"	10.3	7.1	106	IRON CHELATE SOLUTION	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
69	SR-T5	1992	76	6'-0"	15'-2"	6.0	15.2	76	IC-110 IRON CHELATE	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
70	SR-T6	1992	76	6'-0"	15'-2"	6.0	15.2	76	IC-210 FREE CHELATE	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
71	SR-T7	1993	3	30"	3'-6"	2.5	3.5	3	Caustic	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
72	SR-T8	1993	20	48"	8'-10"	4.0	8.8	20	CA-100 INHIBITOR	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
73	SR-T9	1993	20	48"	8'-10"	4.0	8.8	20	CA-2102 SETTLING AGENT	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
74	TK-231	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
75	TK-232	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
76	TK-338	1964	25,000	67'-0"	40'-0"	67.0	40.0	25,117	SWEET NAPHTHA	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
77	TK-571	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	87.0 UNLD REG.	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
78	TK-704	1963	10,000	47'-4"	32'-2"	47.3	32.2	10,081	FUEL OIL	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009 move to 2014		delayed -Tank must be out of service to install nozzles.
79	TK-107	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	SLOP OIL	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2014		
80	TK-227	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	K-1	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2014		
81	TK-344	1977	20,000	60'-0"	42'-0"	60.0	42.0	21,150	REFORMATE	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
82	TK-561	1957	2,300	11'-9"	LTH-69'-11"	11.8	69.9	1,350	BUTANE	2009	2014	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2014		
83	TK-572	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	87.0 UNLD REG.	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2014		
84	Z81-T20		22	60"	6'-4"	5.0	6.3	22	TRI-ACT® 1820	2009	2014	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required

Western Refining

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													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
85	Z81-V11		63	5'-0"	18'-0"	5.0	18.0	63	CAUSTIC	2009	2014	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2015													
86	FW Pp Fuel		12	3'-11-1/2"	5'-7"	4.0	5.6	12	Diesel for Fire Water Pump	2010	2015	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
87	Mercaptan		12	36"	9'-9"	3.0	9.8	12	Mercaptan	2010	2015	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
88	TK-554	1974	2,073	131.875"	LTH-122'8 1/2"	11.0	122.7	2,073	BUTANE/PROPANE	2010	2015	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2015		
89	TK-574	1968	40,000	85'-0"	40'-0"	85.0	40.0	40,425	ST.RUN	2010	2015	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2015		
90	TK-902		237	10'-0"	17'-0"	10.0	17.0	238	Additive Tk. (Western)	2010	2015	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
91	TK-909		5	30"	6'-0"	2.5	6.0	5	Power Service	2010	2015	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
92	Z71-V2	1987	453	94.4375'	LTH-44'-5"	7.9	52.3	453	ANHYDROUS AMMONIA	2010	2015	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
93	Z75-V2	1998	168	10'-0"	12'-0"	10.0	12.0	168	HYDROCARBON VAPORS	2010	2015	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
94	Z81-T7	1998	920	20'-5"	15'-8"	20.4	15.7	913	BRINE WATER	2010	2015	Cone	Single		Concrete	No	n/a	n/a	YES	2015		
95	Z88-V16	2000	55	6'-0"	11'-0"	6.0	11.0	55	RO WATER	2010	2015	Cone	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
96	Z88-V17	2000	55	6'-0"	11'-0"	6.0	11.0	55	RO WATER	2010	2015	Cone	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2016													
97	SWS-TK1	2006	1,000	15'5"	30'-0"	15.4	30.0	997	SOUR WATER	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
98	TK-101	1957	80,000	110'-0"	48'-0"	110.0	48.0	81,242	CRUDE	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
99	TK-111	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
100	TK-112	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
101	TK-116	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
102	TK-225	1957	25,000	67'0"	40'-0"	67.0	40.0	25,117	DISTILLATE	2011	2016	Cone	Double	Jul-06	Soil/Gravel	Yes	9/'09	n/a	YES	2016		
103	TK-226	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	KERSOSENE	2011	2016	Cone	Double	May-06	Soil/Gravel	Yes	9/'09	n/a	YES	2016		
104	TK-339	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	SOUR NAPHTHA	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
105	TK-568	1998	2,000	25'-0"	24'-0"	25.0	24.0	2,098	AMMONIUM THIOSULFATE	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
106	TK-577	1957	10,000	42'-6"	40'-0"	42.5	40.0	10,106	DIESEL	2011	2016	Cone	Double	Aug-08	Soil/Gravel	Yes	9/'09	n/a	YES	2016		
107	TK-579	1957	20,000	60'-0"	40'-0"	60.0	40.0	20,143	DIESEL	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
108	TK-582	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	UNLEADED PREMUM	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
109	TK-708	1963	1,000	22'-6"	14'-11"	22.5	14.9	1,056	Residue	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
110	Z71-TK-716	2006	997	15'5"	30'-0"	15.4	30.0	997	AMMONIUM THIOSULFATE	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
									2017													
111	TK-343	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	ETHANOL	2013	2018	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2008 moved to 2017		Needs to be rescheduled to next internal inspection.
112	A-V59	1958	164	84"	24"-0"	7.0	24.0	164	Baume/Caustic	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
113	TK-562	1986	20,000	60'-0"	46'-6"	60.0	46.5	23,416	ISOMERATE	2012	2017	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2017		
114	TK-583	1996	55,000	100'-0"	40'-0"	100.0	40.0	55,952	DIESEL	2012	2017	Cone	Sec.		Soil/Gravel	Yes	9/'09	n/a	YES	2017		
115	TK-6	1963	1,800	21'-6"	28'	21.5	28.0	1,810	LT STRAIGHT RUN	2012	2017	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2017		
116	TK-910		13	54"	4'-9"	4.5	4.8	13	Red Dye (Western)	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
117	Tk-915		50	52"	18'-7"	4.3	18.6	49	Diesel-Gasoline Blend	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	Yes	n/a	9/09	NO	n/a	n/a	no level gauge work required
118	Z75-V1	1998	168	10'-0"	12'-0"	10.0	12.0	168	HYDROCARBON VAPORS	2012	2017	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
119	Z81-T14		9	4'-0"	4'-0"	4.0	4.0	9	DIESEL	2012	2017	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
120	Z81-T5	1979	5,000	33'-5"	32'-0"	33.4	32.0	4,998	TREATED WATER	2012	2017	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
121	Z83-TK-3		161	8'-0"	18'-0"	8.0	18.0	161	Sulfuric Acid	2012	2017	Cone	Single		Concrete	Yes	n/a	9/09	NO	n/a	n/a	no level gauge work required
122	Z81-T16	1953	69	5'-7.75'	15'-8"	5.6	15.7	69	STARTING AIR	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
123	TK-901	3Pty	237	10'-0	17'-0"	10.0	17.0	238	Additive Tk. (Chevron)		3Pty	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
124	TK-903	3Pty	48	64"	12'-0"	5.3	12.0	48	Additive Tk. (Texaco)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
125	TK-906	3Pty	143	96"	16'-0"	8.0	16.0	143	Additive Tk. (Exxon)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
126	TK-911	3Pty	191	8'-0"	21'-4"	8.0	21.3	191	Add. Tk.(Conoco)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
127	TK-914	3Pty	191	96"	256"	8.0	21.3	191	Add. Tk. (Shell)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
128	TK-117	1983	250	10'-0"	17'-9"	10.0	17.8	248	OUT OF SERVICE (De-Icer)		OOS	Cone	Double		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required

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													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
129	Q-T3		671	20'-0"	12'-0"	20.0	12.0	671	OUT OF SERVICE (Caustic)	DEC-'08	OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
130	Z81-T17		161	8'-9"	15'-0"	8.8	15.0	161	OUT OF SERVICE (Water Softner)		OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
131	Z81-T8		250	11'-0"	15'-0"	11.0	15.0	254	OUT OF SERVICE (Fuel Oil)		OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
132	TK-451	1957	1,000	21'-3"	16'-0"	21.3	16.0	1,011	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
133	TK-452	1957	1,000	21'-3"	16'-0"	21.3	16.0	1,011	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
134	TK-453	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
135	TK-573	1957	250	10'-0"	18'-0"	10.0	18.0	252	OUT OF SERVICE (Kerosene)		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
136	TK-713		1,000	22'-6"	14'-9"	22.5	14.8	1,045	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
137	TK-905		232	94"	27'-1"	7.8	27.1	232	Add. Tk (Empty-Unocal)		OOS	Hor. Cyl.	Elevated	n/a	Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
138	TK-907		25	48"	11'-0"	4.0	11.0	25	EMPTY TANK		OOS	Hor. Cyl.	Elevated	n/a	Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
139	TK-7135		16	53"	6'-0"	4.4	6.0	16	EMPTY TANK (UNICHEM 7376)		OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
140	Z81-T11		161	8'-0"	18'-0"	8.0	18.0	161	EMPTY TANK		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required

Total # of Tanks	140
# of Active Tanks	**124**
# of tanks not requiring radar gauges	45
Tanks requiring gauges	**79**
# of Required Tanks Completed	26
Percentage Complete	32.9%
# of Tanks Remaining to Complete	53

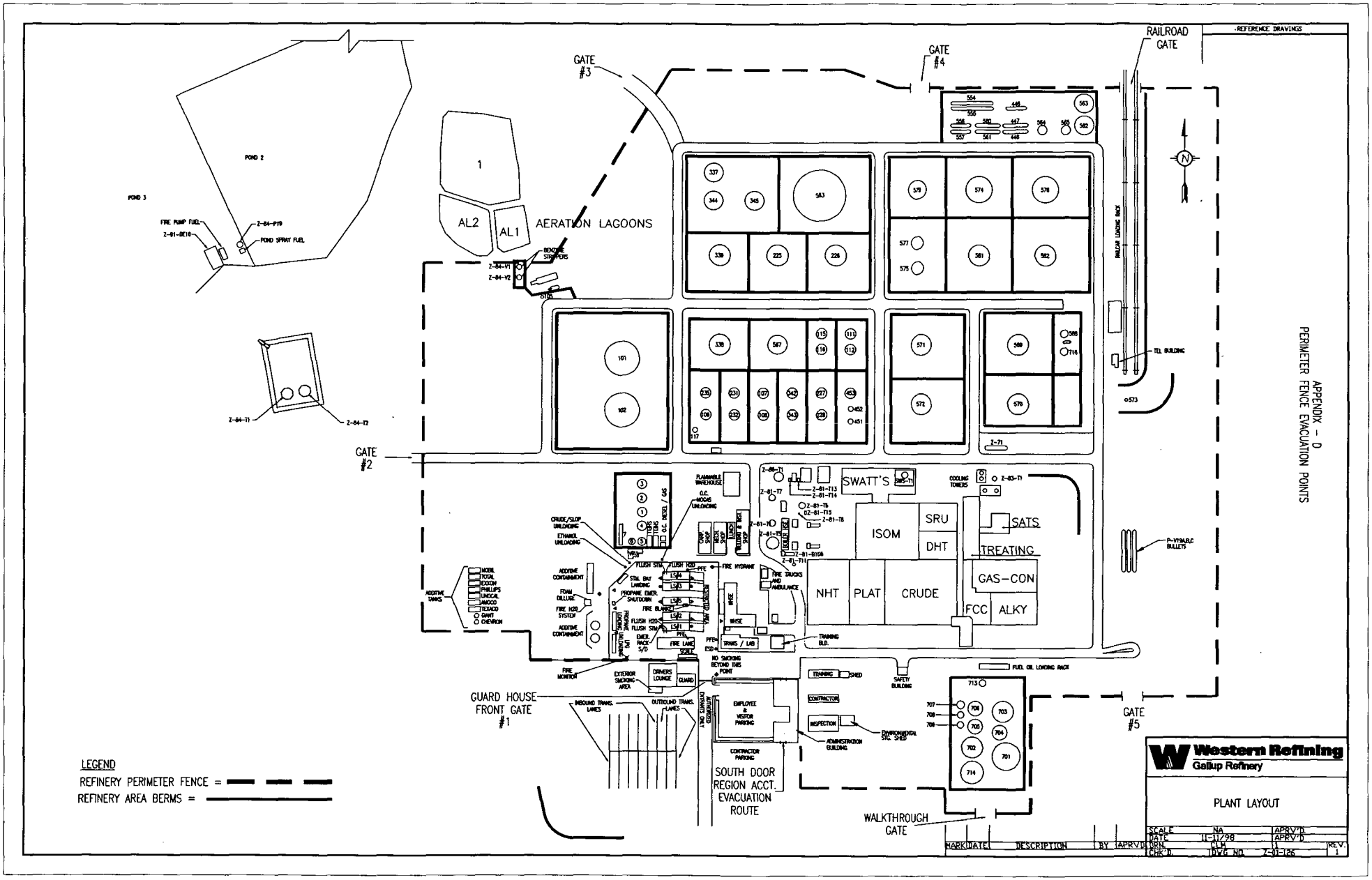
TANK STYLES:
Hor. Cyl. : Not Pressure Rated, mounted above grade, any leak is readily visible
Bullet: Pressure Rated Vessel - Horiz. Cylinder, above grade, leaks are readily visible
Cone Roof: API 650 Style, (could be various roof styles)
Elypsoidal: Low pressure (<8psig design), single floor

FLOOR STYLES:
Single: Single floor, various styles of support underneath the tank.
Secondary: a secondary liner without a sand bottom or leak detection piping, any leak would come out from underneath the tank and not go down under the tank.
Double: Double floor w/leak detection piping
Elevated: Supported Above grade so any leak is readily visible

CONTAINMENT STYLE EXISTING:
Dirt/Gravel
Concrete

Tank Ownership -
Some of the tanks on this listing are owned and maintained by 3rd parties rather than Western Refining. These are indicated by 3Pty in the Year Built Column and the next inspection date columns. As we receive the requested information from the 3rd parties, we will drop that information into the appropriate columns. It is the intent of Western to monitor the 3rd party owner's inspection of the tanks that reside here at the Gallup Refinery.

Update Listing
Western will update this listing at least annually in January and provide the updated listing to NMOCD by the end of January each year. This is to show prior year progress in containments and in tank gauging upgrades. If tank schedules are shuffled; this update will be the notification to NMOCD of those changes. Western will progress the appropriate number of tanks to meet the 10 year API Inspection cycle but does retain the option of swapping tanks between years due to our business needs.


APPENDIX – D
PERIMETER FENCE EVACUATION POINTS
REFERENCE DRAWINGS
RAILROAD GATE
GATE #3
GATE #4
GATE #2
GATE #5
GUARD HOUSE FRONT GATE #1
WALKTHROUGH GATE
POND 2
POND 3
AL2
AL1
AERATION LAGOONS
FIRE PUMP FUEL
POND SPRAY FUEL
ISOM
SRU
DHT
SATS
TREATING
NHT
PLAT
CRUDE
GAS–CON
FCC
ALKY
SWATT'S
TEL BUILDING
SOUTH DOOR REGION ACCT. EVACUATION ROUTE
EMPLOYEE & VISITOR PARKING
CONTRACTOR PARKING
INBOUND TRANS. LANES
OUTBOUND TRANS. LANES
TRAINING BLD.
TRANS / LAB
SAFETY BUILDING
ADMINISTRATION BUILDING
FUEL OIL LOADING RACK
LEGEND
REFINERY PERIMETER FENCE =
REFINERY AREA BERMS =
Western Refining
Gallup Refinery
PLANT LAYOUT
SCALE NA
DATE 11-11-98
DRN. CLM
CHK'D.
DWG NO. Z-01-126
REV. 1
MARK DATE DESCRIPTION BY APRV'D

Chavez, Carl J, EMNRD

From: Johnson, Cheryl [Cheryl.Johnson@wnr.com]
Sent: Wednesday, May 11, 2011 7:19 AM
To: Chavez, Carl J, EMNRD
Subject: FW: third email with response (Appendix H-I)
Attachments: APPENDIX H-I 5-11-11.pdf

Cheryl Johnson
Environmental Specialist

Western Refining - Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
505 722 0231 Direct
505 722 0210 Fax
505 722 3833 Main
cheryl.johnson@wnr.com

From: Riege, Ed
Sent: Wednesday, May 11, 2011 7:01 AM
To: Chavez, Carl J, EMNRD; Johnson, Cheryl
Subject: RE: third email with response

Cheryl will split it and try again.

thanks

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 11, 2011 6:57 AM
To: Riege, Ed
Subject: RE: third email with response

Ed:

No, I didn't receive it. Thx. Our ISP cutoff must have been exceeded.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 11, 2011 6:56 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: RE: third email with response

Did you receive the second one this morning with the Appendix?

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 11, 2011 6:49 AM
To: Riege, Ed
Cc: Johnson, Cheryl
Subject: RE: third email with response

Received. Thanks.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 11, 2011 6:47 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: FW: third email with response

Third and final

Ed Riege

Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Riege, Ed
Sent: Friday, May 06, 2011 2:59 PM
To: Chavez, Carl J, EMNRD
Cc: Larsen, Thurman
Subject: Second email with response

Second email

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

Appendix H – Evaporation Pond Closure Plan Documents

EVAPORATION POND CLOSURE PLAN

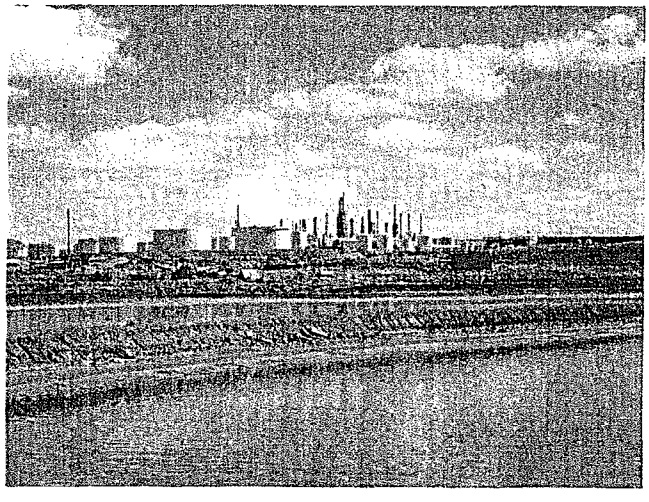
Giant Ciniza Refinery

December 2007

Prepared for

Western Refining

GIANT INDUSTRIES, INC.



Prepared By:

Gannett Fleming West, Inc.
2155 Louisiana Blvd NE, Suite 7000
Albuquerque, New Mexico 87110
Office (505) 265-8468
Fax (505) 881-2513

EVAPORATION POND CLOSURE PLAN

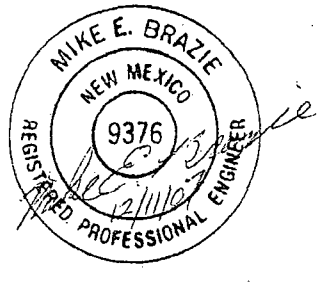
Giant Ciniza Refinery

December 2007

I, Mike Brazie, being a registered Professional Engineer in the state of New Mexico (NMPE #9376) certify that this closure plan was prepared by me or under my direct supervision.

Mike E. Brazie 12/11/07

Mike Brazie Date



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TABLES

APPENDICES

SITE LOCATION AND DESCRIPTION

This closure plan has been prepared for the evaporation ponds at the Giant Ciniza Refinery. The refinery is located on the north side of Interstate 40, approximately 17 miles east of Gallup, New Mexico. Within the refinery, the evaporation ponds are located on a flat plain to the west of the processing unit and tank farm, in the NW¼, Sec. 33, T. 15 N., R. 15 W, McKinley County, New Mexico. **Figure 1** is a location map for the refinery. The ponds are part of the refinery's wastewater treatment system, with effluent from the aeration basins directed to the ponds and allowed to evaporate. Process water from the refinery goes through the API separator for oil/water separation, then to the benzene strippers, and on to the aeration basins for treatment, and finally to the evaporation ponds for final disposition of the water.

There are 11 ponds of various sizes with a total surface area of approximately 120 acres. All are man-made earthen basins with bermed sidewalls. The initial ponds were constructed in the late 1950's, with additional ponds constructed at various times after that. The construction involved clearing and grubbing, followed by leveling of the pond bottoms and construction of the berms to form the ponds. The ponds have been in continuous operation since construction. Elevation of the ponds ranges from 6875.8 feet to 6889.2 feet (water elevation in the ponds), and the berms range from about 1 foot to 4 feet in height.

The refinery operates under a RCRA Hazardous Waste Facility Permit, No. NMD000333211-1. The evaporation ponds were identified as a Solid Waste Management Unit (SWMU No. 2) under this permit. The recommendation in the RCRA Facility Investigation (RFI) was for No Further Action (NFA) at this SWMU No. 2, so no site remediation has been required for these evaporation ponds. Therefore, no remediation of these ponds, except for Ponds 8 and 9 as discussed later in this report, is anticipated. Because of chloride deposition in Ponds 8 and 9, some remediation of those pond bottoms will be required at the time of closure.

SITE SOILS

The native soils in the area of the evaporation ponds are Rehobeth silty clay loam, which has formed in flood plains and on valley floors. It is naturally saline, with salinity up to about 8 mmhos/cm and organic matter content up to about 1 percent. Soil pH ranges from 8 to 9. According to the 2001 NFA Report, the soil at the site is bentonite clay and silt with a hydraulic conductivity of less than 10^{-7} cm/sec.

The evaporation ponds were investigated in the early 1990's. The investigation included collection and analysis of several soil and groundwater samples in the pond areas. No organic contaminants were detected in any of the groundwater samples, indicating no contaminants were migrating to the groundwater from the ponds. Soil samples collected from the perimeter and beneath the ponds (angle drill holes) detected no volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs), except trace amounts of toluene (5 µg/l maximum), in 8 of the 56 soil samples. Based on these results, EPA concurred with the NFA finding for these evaporation ponds.

SITE GEOLOGY

Bedrock at the site is the late Triassic Chinle Formation, which consists primarily of interbedded claystone and siltstone with minor amounts of sandstone and limestone. The Chinle Formation has a total thickness of about 1,600 feet in this area, and is generally not water-bearing, although water has been encountered in some of the minor inter-bedded sandstone lenses. Generally, the Chinle Formation acts as an aquitard.

SURFACE AND GROUNDWATER HYDROLOGY

The site is located within the Rio Puerco valley, north of the Zuni Uplift. Surface water flow off the site is generally northwest by overland flow to the tributaries of the Rio Puerco north of the site. The Rio Puerco is a principal tributary of the Rio Grande, which is east of the site.

Based on information on record at the Office of the State Engineer (OSE), groundwater in the area of the site ranges in depth up to 117 feet, with the average depth to groundwater of 45 feet, based on records for 13 wells within Section 33. Groundwater at the site is obtained from multiple depths between 580 and 1070 feet below ground surface.

The refinery has been sampling groundwater near the evaporation ponds on an annual basis, in compliance with the requirements of the RCRA permit. The latest results (November 2006), detected no VOCs or SVOCs in the groundwater beneath the evaporation ponds.

POST CLOSURE LAND USE

After closure of the ponds, it is anticipated the land will be returned to natural rangeland, as before construction of the refinery. The aircraft landing strip, an unpaved runway approximately 3000 feet long, will remain. This landing airstrip is designated as an emergency landing airstrip on Federal Aviation Administration (FAA) maps.

CLOSURE PLAN COMPONENTS

At closure, the water remaining in the ponds will be allowed to evaporate, the ponds will be regraded, and revegetated. This section describes these operations.

POTENTIAL FOR SITE REMEDIATION

Based on historic sampling results and a risk-based assessment performed using the API model VADSAT, the need to remediate the evaporation ponds to protect groundwater is not anticipated. Sampling is performed at 7 groundwater monitoring wells in the area of the ponds, soil sampling has been conducted around the ponds, and the water within the ponds has been sampled. The ponds were also identified as Solid Waste Management Unit (SWMU #2) in the RFI, which concluded no further action was required at the ponds.

Recent groundwater sampling results for benzene, toluene, ethylbenzene, and xylenes (BTEX) and chloride are summarized on **Table 1**. These results indicate no contaminants have migrated from the evaporation ponds. In addition, the VADSAT model indicated no salt migration below the ponds. Details of the modeling and the modeling results are in **Appendix A**. See **Figure 2** for the locations of the monitoring wells.

Table 1. 2007 Groundwater Sampling Results (BTEX in µg/l, chloride in mg/l)

WELL	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES	CHLORIDE
BW-1C	ND	ND	ND	ND	36
BW-2A	ND	ND	ND	ND	39
BW-2B	ND	ND	ND	ND	31
BW-2C	ND	ND	ND	ND	42
BW-3B	ND	ND	ND	ND	33
BW-3C	ND	ND	ND	ND	38

Based on these groundwater monitoring results and the results of the VADSAT modeling, no over-excavation of most ponds is planned for closure. However, after the ponds have dried and before they are filled, soil samples will be collected to verify that no remediation of the pond bottoms is required at that time. The sampling results will be submitted to OCD to document that the ponds meet closure criteria before filling and grading the ponds.

In addition, the salt concentration in the pond samples was compared to the saturation concentration of NaCl in water. These calculations show that the measured salt concentrations in the pond water are well below saturation, and so no precipitation of NaCl is to be expected on that basis.

However, thin (up to ¼ inch) layers of crystalline salt were observed below the bottom of Pond 8, and the same was reported for Pond 9. No salt layers were reported in any of the other ponds. These observations were made by digging down about 2 ft with a hand shovel in Pond 8. At that location, 3 such salt layers were found interbedded with soil to a depth of approximately 2 feet below the pond bottom. Because these two ponds (8 and 9) are the final ponds in the series, they have the highest salt concentrations. If the upper ponds freeze, or the discharge from the upper ponds in the series is reduced, the water levels in Ponds 8 and 9 may decrease through evaporation to the point where the salt concentration reaches saturation and salt is precipitated out. Because of the higher salt concentrations in these two ponds, they have a lower freezing point than the other ponds, and would continue to evaporate after the other ponds have frozen over. This would result in a thin salt layer that would be buried by sediment carried into the pond when the inflow is resumed. It appears this is what has led to the salt layers in those two ponds.

Therefore, this closure plan has assumed that 2 feet of over-excavation will be required in Ponds 8 and 9. Under current OCD Rules (as of December 2007), chloride contaminated soil from petroleum sites can be disposed in a solid waste landfill that has a special waste

permit which allows such waste to be accepted. The nearest such facility is the Red Rocks Regional Landfill near Thoreau in McKinley County. This facility is currently permitted to accept chloride contaminated soil, and charges $46/ton for disposal. The closure estimate is based on excavating and hauling the chloride contaminated soil from Ponds 8 and 9 to this facility.

It should be noted, that the OCD is allowing disposal of chloride contaminated soils at landfills with special waste permits on an interim basis, and this rule may change if a special facility for handling petroleum wastes is constructed in this part of the state. Soil sampling will also be necessary at closure to confirm that two feet of over-excavation will be sufficient to meet closure standards.

WATER EVAPORATION

As part of the evaporation pond closure operations, treated wastewater will cease to be discharged to the evaporation ponds. The water remaining in the ponds will then be allowed to evaporate, with enhanced evaporation provided by the spray evaporators. Once the water has evaporated and the ponds are dry, the pond bottoms will be sampled to determine if excavation of the soil beneath the ponds must be treated or removed due to the presence of contaminants above New Mexico Environment Department (NMED) Soil Screening Levels (SSLs). Based on historic sampling and modeling discussed above, no site remediation is anticipated for closure of the ponds, except for salt removal from Ponds 8 and 9. However, should the closure samples indicate contaminants exceed the NMED SSLs, appropriate remedial measures will be implemented in the other ponds as well.

The recovered pond sites are not expected to function as an agricultural area. If remediation is required, it will mostly likely be to treat chlorides. Increased chloride levels may adversely impact vegetation growth. Such contamination may not be a significant issue except for the post-closure revegetation program. Where encountered, soils with chloride concentrations above plant tolerances will be excavated and disposed offsite, and clean fill from designated borrow areas within the facility perimeter will be placed to support plant growth consistent with the revegetation program. Several clean borrow areas are available on site, so there is no need for importing fill. Fill needed to attain final grade and support plants will be obtained from those designated fill sites, as needed.

SITE GRADING

Once the water in the ponds has evaporated, and Ponds 8 and 9 have been over-excavaed and backfilled, the ponds will be graded. A plan of the existing ponds is shown on **Figure 2** and the final grade on **Figure 3**. The grading has been designed to restore the area of the ponds approximately back to the natural contours prior to construction of the ponds. The material volumes are presented on page 6 of this closure plan. Final grade will be attained by grading the bermed soils into the pond areas, supplementing the material requirements by grading soils from the areas immediately adjacent to the ponds, if needed. Additional material for fill areas will be excavated from specific areas designated by the landowner. Because all of the property is owned by the refinery, there

will be no need to import soils for the closure grading. Based on the models generated from existing site topography and proposed grading, there is a deficit of approximately 104,000 cubic yards (CY) of material. This shortfall is the result of the over-excavation which will occur in Ponds 8 and 9. As stated previously, any borrow required to complete grading operations will be excavated from sites designated by the landowner. Topsoil material from cut areas will be stockpiled and used for final cover, and the grubbed materials will be disposed of on site or at a local landfill. Elevation at final grade will range from 6870 feet to 6890 feet, with a slope of approximately 0.7 percent to the west.

ROAD RECLAMATION

Most of the roads in the pond area are unpaved surfaces on the berms or between the ponds. These areas will be re-contoured along with the ponds. No paved roadways are present in the area of the ponds. However, the unpaved emergency runway will remain after closure of the ponds.

SITE DRAINAGE

No drainage structures will be required at closure. The final grade will provide a general slope of about 0.7 percent to the west, consistent with the natural contours and drainage patterns of the area. Post-closure site drainage will be by natural sheet flow to the western edge of the refinery property, and then will follow the existing drainage channels off-site. Because of the low grade and the re-vegetation at closure, no erosion protection other than site vegetation is necessary or planned.

REVEGETATION

Areas impacted by grading and other disturbances during closure operations will be re-vegetated. The re-vegetation is intended to reduce impacts to surface water by establishing a self-sustaining native plant community which will provide protection against soil erosion and enhance the natural aesthetics of the closed site. The need for soil amendments will be determined based on site-specific evaluations at the time of closure. Inorganic fertilizer will be added to increase nitrogen, phosphate, and potassium available to plants, as required by analytical results of the soils. Mulch will be applied after seeding to conserve soil moisture and protect against soil erosion until the plants have taken root. Planting will be performed between May and September.

Amended areas will be seeded with a mixture of native grasses and forbs that will not depend on external application of water or fertilizer. The plant species native to the area, as listed in the NRCS *Soil Survey of McKinley Area, New Mexico*, are shown on **Table 2**. Specific species, composition percentages, and seeding rates will be determined during a vegetation survey conducted as part of the closure operations.

Table 2. Native Plant Species

Alkalai Sacaton	Fourwing Saltbush	Blue Grama	Inland Saltgrass	Rabbitbrush
Western Wheatgrass	Black Greasewood	Bottlebrush Squirreltail	Mat Muhly	

REGULATORY COMPLIANCE

A stormwater discharge permit (NPDES) will be required for construction activities during site closure; and must be obtained prior to implementing the closure operations. Temporary erosion control measures, such as silt fence, will be placed around the construction zone during construction, but will be removed upon completion of the site closure. **Figure 3** shows the location of the silt fence for temporary erosion and sediment control. Dust will be controlled periodically during earthmoving operations by watering haul roads and other dust-generating areas, as necessary.

CLOSURE OPERATIONS AND SCHEDULE

Although a specific schedule of operations will be prepared by the construction contractor selected to perform the closure, a general schedule follows.

Week 1:

- Notify OCD that closure operations will commence
- Notify EPA that the evaporation ponds (SWMU No. 2) will be permanently closed
- Stop wastewater delivery to the evaporation ponds
- Prepare Storm Water Pollution Prevention Plan (SWPPP)

Weeks 1 – 4:

- Evaporate water from ponds
- Analyze bottom soil in each pond by SW-846
- Mobilize construction equipment
- Install sediment controls

Weeks 5 – 8:

- Excavate and dispose of salt contaminated soils
- Regrade ponds
- Perform vegetation survey and soil analysis for amendments and seed mix
- Final contour area

Week 9:

- Revegetate

CLOSURE COST ESTIMATE

The closure costs were estimated by calculating material volumes and using estimated unit bid prices. Material volumes for each pond were calculated based on pond size versus total cut, and are summarized on **Table 3**. Costs per pond were calculated based on pond area versus total cost and are summarized on **Table 4**.

Table 3. Pond Volumes

Pond Number	Pond Area (ac)	Pond Volume (CY)
2	7.5	16085
3	4.2	9007
4	2.4	5147
5	6.3	13511
6	14.2	30453
7	20.8	44608
8*	9.3	30008
9*	22.8	73560
10	1.7	3646
11	20.5	43964
12	12.7	27237
Total	122.4	297226

* Denotes salt contaminated pond

Table 4. Pond Costs

Pond Number	Pond Area (ac)	Pond Cost ($)
2	7.5	$189,818
3	4.2	$106,298
4	2.4	$60,742
5	6.3	$159,447
6	14.2	$359,389
7	20.8	$526,430
8	9.3	$235,375
9	22.8	$577,048
10	1.7	$43,025
11	20.5	$518,837
12	12.7	$321,426
Total	122.4	$3,097,835

A more detailed breakdown of the cost estimate is included in Appendix B.

MATERIAL ESTIMATES

Earthwork quantities were estimated from the existing contour map of the refinery, including the evaporation ponds, and the final grading plan developed as part of this closure plan. Because the existing contour map showed water surface elevations in the ponds and not the elevation of the bottom of the ponds, the bottom elevations were assumed from the elevations just outside each pond. Because the ponds were built up by constructing berms at grade, the assumed elevations should be adequate for the purposes of the closure cost estimate for this closure plan. The final contours were then designed integrally with the existing grades around the ponds, with the final contours of the closed ponds tied to those surrounding elevations and contours, with adequate slope to provide drainage by sheet flow into the natural drainage areas to the west of the ponds.

The cut and fill requirements were then determined by comparing the existing model to the proposed model generated by the proposed grading plan. This resulted in an excess of 2,326 CY of material, which is available from the berms surrounding the ponds. This excess represents the amount of material that will be available for the additional fill required after over-excavation of Ponds 8 and 9. The overall volumes are as follows:

Total Volume of Cut	158,352 CY
Total Volume of Fill	156,026 CY
Net	2,326 CY (Excess)

The amount of soil to be remediated was estimated by assuming 2 ft of soil will be excavated from the bottom of Ponds 8 and 9 throughout their areal extent. For purposes of estimating, it was also assumed that the salt layers would not be separated from the interbedded soil, and so the entire 2 ft thickness would be excavated and hauled to the Red Rocks Regional Landfill. This results in an estimated 104,000 CY of material excavated from Ponds 8 and 9, which will be replaced by an equivalent volume of clean material excavated from borrow sites designated by the landowner. These designated sites will be adjacent to the existing ponds. Silt fence requirements are shown on **Figure 3**. Silt fence will be placed along the lower gradient of the construction zone. A total of 5800 linear feet (LF) of silt fence will be required.

Revegetation acreage was determined from the grading plan, based on the area of disturbance. This includes the area scraped to meet the fill requirements. The acreage of each pond is summarized on Table 3. The total acreage to be revegetated is 182 AC.

The following items were considered incidental, and not separated out in the estimate:

1. Water for dust control, incidental to grading and shaping (Bid Item 5)
2. Silt fence management, incidental to SWPPP (Bid Item 2)
3. Soil analysis, incidental to revegetation (Bid Item 6)
4. Over-seeding, soil amendment, or blending, indental to revegetation (Bid Item 6)
5. Notifications, permits and clearances, incidental to mobilization (Bid Item 1)

COST ESTIMATE

Closure costs for the total site were estimated using the material volumes determined as described above, and applying average unit bid (AUBs) and an independent estimate of construction unit costs. The earthwork unit costs developed for this estimate are included in **Appendix B**. AUBs were estimated based on the latest bid prices for New Mexico Department of Transportation (NMDOT) construction projects, adjusted for McKinley County, project size, and construction season using Estimator® estimating software. An independent estimate of unit costs, developed as part of an earlier assignment on the project, were also used in adjusting the NMDOT AUBs, as shown in Appendix B. These estimates are presented in 2007 dollars and based on construction bid prices, supplier quotes, and commodity prices as of December 2007.

The earthwork costs are based on the earthwork material volumes required to close the entire pond site. These costs include the excavation and disposal of material excavated from Ponds 8 and 9. The re-vegetation costs are based on the acreages of the ponds and additional area of disturbance. The cost for silt fence is based on the placement shown on **Figure 3**. Mobilization and SWPPP costs were estimated as lump sum for the entire project, assuming the entire closure will be performed in a single mobilization. Engineering and construction services (E&C) were assumed to be 10% of construction costs, and include soil sampling and analysis for site remediation, and New Mexico Gross Receipts Tax (NMGRT) was applied at the current (December 2007) McKinley County rate of 6.625 percent.

Because no post-closure care or monitoring is anticipated, no costs for those items are included in the estimate. If contamination is found above SSLs at the time of closure, it is expected to be chlorides, based on historic monitoring results, which could impact plant growth. However, research has indicated that a soil cover of 5 feet above salt-contaminated soil in New Mexico can be sufficient to prevent wicking of salt to the plant root zone, and so if chlorides become a problem at closure, additional soil cover will most likely be the appropriate remediation approach for these ponds. Other options may include gypsum treatment or application of other salt-inhibiting materials.

Based on these assumptions and the cost estimating method described, the total estimated closure cost for the evaporation ponds is **$3,098,000**. See Appendix B for a complete breakdown of costs.

REFERENCES

Giant Ciniza Refining Co., RFI Phase I Supplemental Report, August 21, 1991

Giant Ciniza Refining Co., RFI Phase II Report, October 21, 1991

Giant Ciniza Refining Co., Post Closure Care Permit, Aug. 2000

Giant Ciniza Refining Co., OCD Draft Discharge Permit, July 9, 2007

Natural Resources Conservation Service, Soil Survey of McKinley Area, New Mexico, 2004

Appendix I – Inspection Forms

WESTERN REFINING
GALLUP REFINERY
Groundwater Discharge Permit GW-032
Recovery Well Inspections

Permit Requirement: GW-032

Condition Permit ID # : OCD Sect. 20, Item 5

Monitoring Required: Quarterly measurement of product layer thickness and bailing of product.

Equipment Identification: RW-1, RW-2, RW-5, RW-6

Date of measurement	Time	Quarter	Well #	Depth to Product (FT)	Depth to Water (FT)	Product Level Thickness (FT)	Volume of Product Bailed (gallons)
			RW-1				
			RW-2				
			RW-5				
			RW-6				
Name and Title of person who performed measurement: Cheryl Johnson (Environmental Specialist)							

Signature: /s/ *Cheryl Johnson*, Environmental Specialist

CC: Ed Riege

WESTERN REFINING – Gallup Refinery
OCD DISCHARGE PERMIT GW-032
BI-WEEKLY INSPECTION
CENTRAL & NE LANDFARMS

CENTRAL OCD LANDFARM

DATE INSPECTED: _____

_____ 1. Check berms for erosion to prevent run-on and run-off of rainwater.

_____ 2. Pooling of liquids in the landfarm is prohibited. Any freestanding water in the landfarm must be reported to the Environmental Department and liquid removed within 24 hours.

_____3. Any new contaminated soil brought onto the landfarm must be disked within 72 hours of receipt.

_____4. Disk and or Tilled. (Not done – state reason(s) why it was not completed.)

INSPECTED BY: _____

COMMENTS:_____

_____

_____

NE OCD LANDFARM

DATE INSPECTED: _____

_____ 1. Check berms for erosion to prevent run-on and run-off of rainwater.

_____ 2. Pooling of liquids in the landfarm is prohibited. Any freestanding water in the landfarm must be reported to the Environmental Department and liquid removed within 24 hours.

_____3. Any new contaminated soil brought onto the landfarm must be disked within 72 hours of receipt.

_____4. Disk and or Till (Not done- state reason(s) why it was not completed.)

INSPECTED BY: _____

COMMENTS:_____

_____

_____

Date_____

GIANT REFINING COMPANY

90 DAY STORAGE AT BUNDLE CLEANING PAD

RCRA STORAGE AREA COMPLIANCE CHECKLIST

GENERAL REQUIREMENTS:

1. Has the generator initiated a hazardous waste determination. **YES NO NO WASTE**

   COMMENTS: _____

   _____

2. WASTE TYPES: **D F K P U NO WASTE**

   COMMENTS: _____

   _____

3. Are containers in good condition? **YES NO NO WASTE**

   COMMENTS: _____

   _____

4. Is waste compatible with containers? **YES NO NO WASTE**

   COMMENTS: _____

   _____

5. Are hazardous waste containers marked with the words "HAZARDOUS WASTE"?

   YES NO NO WASTE

   COMMENTS: _____

6. Is there an accumulation start date on every container in the <90 day storage area?

   YES NO NO WASTE

   If yes, complete the following table:

Container I.D. Number:	Accumulation Start Date	Type of Waste

COMMENTS: _____

_____

_____

7. Has the waste exceeded 90 days? **YES** **NO** **NO WASTE**

COMMENTS: _____

_____

8. Are constituents of waste on containers or log sheets? **YES NO** **NO WASTE**

COMMENTS: _____

_____

9. Are containers closed? **YES** **NO** **NO WASTE**

COMMENTS:

_____

10. Has there been any hazardous waste spills or leaks? **YES NO** **NO WASTE**

If yes, explain: _____

_____

11. If storage area is outside, is the waste in a dry, sheltered area and on pallets or similar devices so that they are off the ground? **YES** **NO** **NO WASTE**

COMMENTS: _____

_____

12. Is the storage area free of obstacles and deterioration? **YES NO NO WASTE**

COMMENTS: _____

_____

13. Is the <90 day storage area inspected weekly? **YES** **NO**

COMMENTS: _____

_____

14. Are the <90 day storage area signs and danger signs prominently posted and visible?

YES **NO**

COMMENTS: _____

_____

15. Is there spill control equipment, emergency equipment, communication equipment, and decontamination equipment at the <90 day storage area? **YES** **NO**

LIST EQUIPMENT ON SITE: _____

_____

16. Is there adequate aisle space between containers in the <90 days storage are?

YES **NO** **NO WASTE**

COMMENTS: _____

_____

17. Have the operators/inspectors for the <90 storage area completed and are they up-to-date on the required training? **YES** **NO**

COMMENTS: _____

_____

18. Copy of the Contingency Plan located at main office.

19. COMMENTS: _____

_____

_____

_____ _____

Inspector's Signature ***Date of Inspection***

CINIZA REFINERY
OCD DISCHARGE PLAN GW-032
WEEKLY POND INSPECTION

DATE: _____

INSPECTED BY: _____

POND #	FREEBOARD	DIKE CONDITION	IMMEDIATE ACTION NEEDED?
1			
2			
3			
4			
5			
6a			
6b			
7			
8			
9a			
9b			
9c			
9d			
11			
12a			
12b			

COMMENTS: _____

_____

Check all ponds weekly for dike condition and freeboards. Check also for unusual flow from or into the ponds.

COMPREHENSIVE SITE INSPECTION FORM

Inspector's Name: _____

Date/Time of Inspection: _____

Response Equipment and Plan Review	Yes	No	Actions Taken
Tools and equipment necessary to maintain the BMPs are available?			
Fuel spill supplies (absorbent pads, booms, etc.) are on-site and in good condition?			
Activities, significant materials, non-significant materials, and TRI chemicals located in all basins are consistent with descriptions in Section 3.0 of the SWPPP (i.e., does Section 3.0 match field observations)?			
Pollution prevention systems are adequate to reduce pollutant loading?			
1. Industrial materials, residue or trash present			
2. Leaks or spills present			
3. Offsite tracking of industrial material or sediment present			
4. Tracking or blowing of raw, final , or waste materials present			
5. Pollutants entering (or potentially entering) the drainage system			
6. Visual and analytical monitoring taken into account			
7. Evaluation of BMPs and their effectiveness conducted.			

Attach copies of BMP inspection forms to this and additional comments if necessary. If there are NO problems or issues on any of the BMP inspection forms or this form, the facility manager must sign the certification below. If problems or issues are identified on any of the forms, DO NOT SIGN. See Section 5.1.2 Annual Comprehensive Site Compliance Evaluation in the SWPPP for further instructions.

Certification: The Annual Comprehensive Site Compliance Evaluation verifies that the facility is in compliance with the Stormwater Pollution Prevention Plan and the NPDES Multi-Sector General Permit.

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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.

_____

Signature

_____

Name/Title of Facility Manager

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT GW-032
REFINERY PERIMETER INSPECTION

Permit Requirement: **Section 9.0 item 8**

Conduct a perimeter search of the refinery property with focus on hydrocarbon staining or any release that could result in water contaminatio
see map attachment for route of inspection

Frequency: **bimonthly- twice a month**

Date/Time of Inspection:
Note any findings:
Name and Title of person who performed inspection

Signature: _____

CC: Ed Riege

BIOVENTING MONITORING LOG

		READING (PPM)											
		DATE											
Map Location	Date --->										AVERAGE	MAXIMUM	MINIMUM
	Temp (deg F)												
Number	Tag #												
C(1)	22723										#DIV/0!	0.0	0.0
2	22724										#DIV/0!	0.0	0.0
3	22725										#DIV/0!	0.0	0.0
4	22726										#DIV/0!	0.0	0.0
5	22727										#DIV/0!	0.0	0.0
6	22728										#DIV/0!	0.0	0.0
7	22729										#DIV/0!	0.0	0.0
8	22730										#DIV/0!	0.0	0.0
9	22731										#DIV/0!	0.0	0.0
10	22732										#DIV/0!	0.0	0.0
11	22733										#DIV/0!	0.0	0.0
12	22734										#DIV/0!	0.0	0.0
13	22735										#DIV/0!	0.0	0.0
14	22736										#DIV/0!	0.0	0.0
15	22737										#DIV/0!	0.0	0.0
16	22738										#DIV/0!	0.0	0.0

Western Refining

GALLUP REFINERY

TANK FARM

Tank / Vessel Start-Up

PURPOSE

1. The purpose of this procedure is to safely return hydrocarbon tanks to service.

REFERENCE MATERIAL

1. Oil Movement Training Manual

MINIMUM PERSONNEL

1. Pumper Gauger / Operations Supervisor Off-Sites/ any other Off-Sites personnel

SAFETY EQUIPMENT

1. PPE – Refer to Safe Work Procedure #200
2. Explosive Gas Meter
3. MSDS of tank products
4. Safe Work Procedures #406 – Blinding Procedures
5. Safe Work Procedures #407 – Procedure for Entering External Floating Roof Tanks
6. Safe Work Procedures #410 – Electric Power Equipment
7. Safe Work Procedures #506 – Pre-Start Up Safety Review
8. Safe Work Procedures #507 – Management of Change
9. Maintenance Head Up Permit
10. Off-Sites Start up Checklist
11. Master Lock Out / Tag Out Tracking Sheet

EQUIPMENT INVOLVED

1. The tank / vessel that is being put back in service.

OBJECTIVES

1. To ensure that all proper and authorized repairs and/or revisions have been completed and a tank/vessel prior to it's return to service.
2. Utilize the Tank – Vessel Start-up Checklist to prepare tank for service.

3. Notify Off-Sites personnel that a tank / vessel has been authorized for return to service by M.O.C. and Off-Sites safety meeting after tank is ready for service.

PREREQUISITES / PRECAUTIONS

1. **After the Maintenance Department has completed all repairs / revisions to the tank / vessel, the Off-Sites Supervisor will initiate the Tank / Vessel Startup Checklist.**
2. **Verify that all work tickets have been completed and signed off by the Maintenance Department.**
3. **Verify and complete the Tank Head-Up Procedure / Closure of Equipment Permit.**
4. **Field verify that all isolation devises for mechanical, electrical, pneumatic, steam, and hydraulic systems have been removed.**
5. **Verify that all items listed on the master LOTO tracking sheet have been authorized for return to service.**

PROCEDURE

____ ____ ____1. Inspect inside of tank for the following:

____ ____ ____ 1.1 Water draw and suction lines are clear.

____ ____ ____ 1.2 Mixer impeller in place.

____ ____ ____ 1.3 Primary and secondary roof seals in good condition.

____ ____ ____ 1.4 Gauge flat and cable in place.

____ ____ ____ 1.5 Area clean of all debris and tools.

____ ____ ____ 1.6 Make sure all bolts are tight.

____ ____ ____ 1.7 Inspect roof leg socks for proper installation.

____ ____ ____ 1.8 Notify Western Environmental department that you are ready to return tank to service.

____ ____ ____2. Head up tank

____ ____ ____ 2.1 Have maintenance install roof manway.

____ ____ ____ 2.2 After manway installed, check roof to ensure all tools removed from area.

____ ____ ____ 2.3 Ensure roof is clean of all dirt, sand and debris.

____ ____ ____ 2.4 Have maintenance install manhole covers on shell.

____ ____ ____ 2.5 Ensure full face gaskets are installed on manways.

____ ____ ____ 2.6 Check all bolts are properly tightened.

____ ____ ____ 2.7 Check mixer for proper installation.

____ ____ ____ 2.8 Check all valves for proper installation and gaskets.

____ ____ ____ 2.9 Ensure all bull plugs have been replaced in lines.

____ ____ ____ 3. Remove blinds

____ ____ ____ 3.1 Have maintenance remove blinds per blind list.

____ ____ ____ 3.2 Make sure proper gaskets and bolts in place.

____ ____ ____ 4. Fill tank

____ ____ ____ 4.1 Add water to tank until the water level in tank is adequate to avoid splashing when adding hydrocarbons.

____ ____ ____ 4.2 Set proper material to tank and continue filling tank to float roof.

____ ____ ____ 4.3 Check to following for leaks as tank fills:

- Valve flanges
- Tank flanges
- Manhole plates

____ ____ ____ 4.4 Reel tank to obtain manual gauge.

____ ____ ____ 4.5 Have instrumentation department set auto gauge on tank.

____ ____ ____ 4.6 Check TDC gauge in control house for accuracy

____ ____ ____ 4.7 Ensure the mixer is operating properly and not leaking.

____ ____ ____ 4.8 Continue checking for leaks as the tank fills.

____ ____ ____ 4.9 When tank reaches safe oil height, chain lock and tag all tank valves.

____ ____ ____ 4.10 Tag mixer Start-Stop switch

____ ____ ____ 4.11 Tag mixer at breaker in "OFF" position.

____ ____ ____ 4.12 Have maintenance raise legs to high position and pin them.

____ ____ ____ 4.12.1 Install leg socks

The unit operator has full authority to shut down this unit during any unsafe conditions.

PROCEDURE SIGN-OFF

GALLUP REFINERY

TANK FARM

Tank / Vessel Start-Up

DATE	NAME	SIGNATURE

Western Refining

GALLUP REFINERY

Tank Farm

Typical Rounds

PURPOSE
1. The purpose of this procedure is to safely review Tank Farm activities.

REFERENCE MATERIAL
1. Oil Movement Training Manual

MINIMUM PERSONNEL
1. Pumper Gauger

SAFETY EQUIPMENT
1. Standard PPE

OBJECTIVES
1. Review Tank Farm activities.

PREREQUISITES / PRECAUTIONS
1. PRIOR: Prior to beginning making the rounds relieve the Pumper Gauger that was on duty.

PROCEDURE
1. **Check the tank gauges and transfers on the Tank Farm Log Sheet. If you have a blend going, check it out first.**
2. **Check out the blend manifold to be sure all the valves are in the right position.**
3. **Check on any tanks that are scheduled to high gauge or low gauge to verify the times.**
4. **Check the API operation.**
5. **Get necessary readings for the log sheet.**
6. **Check LPG tank levels and line-ups.**
7. **Check pumps at RR rack area.**
8. **Check access to gates and keep them closed.**

9. **Check pump oil levels.**
10. **Check marketing tanks to makesure that the auto/hand switch is in the proper position to prevent run outs or overfills.**

The unit operator has full authority to shut down unit during any unsafe conditions.

PROCEDURE SIGN-OFF

GALLUP REFINERY

Tank Farm

Typical Rounds

DATE	NAME	SIGNATURE

Western Refining

GALLUP REFINERY

API

Transfer waste water/process sewer to API Separators

PURPOSE

1. The purpose of this procedure is to safely and effectively transfer waste water to API Separators

REFERENCE MATERIAL

1. Oil Movement Training Manual/Procedures

MINIMUM PERSONNAL

1. WWT/API OPERATOR

SAFETY EQUIPMENT

1. P.P.E. Refer to Safework Procedure # 200

EQUIPMENT INVOLVED

1. PUMPS
2. VALVES

OBJECTIVE:

1. Safely and effectively transfer waste water/process sewer to API Separators.

PRE-REQUISITES/PRE-CAUTIONS

1. **Prior to: Operator must be familiars himself with line-up.**
2. **Caution: Product being transferred could be harmful if not handled properly.**

PROCEDURE:

1. **OPEN THE 24 INCH WASTE WATER/PROCESS SEWER RUNDOWN VALVE AT TANK 35.**

2. **OPEN 10" 150# SUCTION VALVE AT TANK 35.**

3. **LINE UP BY OPENING NECASARY VALVE)S) IN PUMP HOUSE**

4. **OPEN THE 6 "150# DISCHARGE VALVE(s) AT THE API SEPARATOR(S)**

5. **START PUMP(S) Z-84-P43, Z-84-P44 OR Z-84-P45 LOCATED IN THE METAL BUILDING.**

NOTE: IF ONE PUMP DOES NOT KEEP THE LEVEL EQUALIZED TURN ON ANOTHER PUMP.

The unit operator has full authority to shut down unit during any unsafe conditions

PROCEDURE SIGN-OFF

GALLUP REFINERY

API

DATE	NAME	SIGNATURE

TANK GAUGE QUARTERLY VERIFICATION – CHECKLIST #1

ISSUE: MARCH 15 – JUNE 15 - SEPTEMBER 15 – DECEMBER 15

DATE ISSUED: _____ DATE DUE: _____

PUMPER GAUGER ISSUED TO: _____ DATE: _____

Tank	Total Tank Outage	Varec Reading	Hand Gauge Reading	Difference	Visual Insp. Of Floating Roof	Amount of Water	COMMENTS
106	32'-8 ½"						
107	32'-8 ¾"						
108	32'-8 ¾"						
225	40'-1¾"						
226	40'-5"						
227	32'-11 5/8"						
228	33'-3 ½"						
231	32'-8 ¼"						
232	32'-9"						
235	32'-8 ¼"						
338	40'-8 3/8"						
339	40'-8 ¾"						
567	- -						
568	24-8 ¾						

NOTE:

1. The Pumper Gauger assigned this checklist is responsible for both routine water draining and light bulb maintenance on the listed tanks for the entire three month period. Water draining on sales tanks will still be the responsibility of the Pumper Gauger who puts them on sales.
2. During the hand gauging of any Internal/External floating roof tank, please make notation of any potential problems. This would include product on the roof, separation of seal from the wall, etc. Mark on the sheet that a visual inspection was completed.

SIGNATURE: _____

QUARTERLY VISUAL ASSESSMENT OF STORMWATER DISCHARGES FORM

Date	☐ Outfall 1 ☐ Outfall 2
Time:	
Name:..... Signature:	

Observations (60 FR 51161)	Observation
Color	
Odor	
Clarity	
Floating Solids	
Settled Solids	
Suspended Solids	
Foam	
Oil Sheen	
Other obvious indicators of stormwater pollution	
Nature of Discharge (i.e. Runoff, snowmelt)	
Probable sources of stormwater contamination	

Notes:

- Visual monitoring will be performed in the following periods: January through March, April through June, July through September, and October through December for the life of the permit.
- Visual monitoring must be performed during daylight hours using grab samples collected within the first 30 minutes (or as soon thereafter as practical) of when the runoff or snow melt begins discharging of a storm event. In the event that a sample cannot be collected within the first 30 minutes of the storm event, the reason for delay must be documented.

Visual Monitoring Waiver

If visual monitoring cannot be performed during the required period as a result of adverse weather conditions (including drought) or inaccessibility which make the collection of a sample dangerous or otherwise impractical, document here the reason for not performing the visual monitoring:

Report by:_____

MONTHLY INSPECTION FORM – OUTFALL 1

Date:_____

General Items, Diversion Structures, Sediment Traps	Date										Weather	Actions to be taken Comments
	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials		
Does storm runoff properly drain in the road berms and drainage channels to the stormwater barriers?												
Are the road berms and drainage channels in good condition, clear of debris and functioning properly?												
Is there excessive erosion?												
Are the settling ponds and concrete stormwater barriers effectively removing sediment?												
Do any of these structures require excavation of accumulated sediment?												
Are the valves at the sediment ponds and barriers closed?												
Are process area controls and pond berms intact?												
Are straw bales in good condition?												
Are culverts free-flowing and in good condition?												

Outfall	Date										Weather	Actions to be taken Comments
	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials		
Does stormwater discharge without excessive erosion?												
Is the outfall in good condition?												
Is there debris or sediment present?												
Are valves at the outfall closed?												

Report by: _____

MONTHLY INSPECTION FORM – OUTFALL 2

Date: _____

General Items, Diversion Structures, Sediment Traps	Date										Weather	Actions to be taken Comments
	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials		
Does storm runoff properly drain in the road berms and drainage channels to the stormwater barriers?												
Are the road berms and drainage channels in good condition, clear of debris and functioning properly?												
Is there excessive erosion?												
Are the concrete stormwater barriers effectively removing sediment?												
Do any of these structures require excavation of accumulated sediment?												
Are the valves at the barriers closed?												
Are process area controls and pond berms intact?												
Is there a change in the vegetation?												
Are culverts free-flowing and in good condition?												

Outfall	Date										Weather	Actions to be taken Comments
	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials	Y / N	Initials		
Does stormwater discharge without excessive erosion?												
Is the outfall in good condition?												
Is there debris or sediment present?												

Report by:_____

MONTHLY INSPECTION FORM – GENERAL PLANT AND PROCESS AREAS

Date:_____

General Items, Diversion Structures, Sediment Traps										
	Date									Actions to be taken Comments
	Y / N	Weather	Initials	Y / N	Weather	Initials	Y / N	Weather	Initials	
Does storm runoff properly drain to oil-water separator or API units?										
Are the berms around tanks in good condition?										
Are berms or curbs around process areas or loading racks in good condition?										
Is there tracking of materials to roadways or drainage areas?										
Are berms in grassy area intact and functioning?										
Is there excessive erosion?										
Are process area controls and pond berms intact?										
Is valve at firefighting water tank closed?										
Is material stored in assigned location? (warehouse, maintenance yard, etc.)										
Are tanks in good condition?										
Are pipelines in good condition and not leaking?										
Are sumps at railroad and truck loading racks empty?										
Are drop inlets clear and free of debris?										
Is there evidence of non-stormwater discharging to Outfalls 1 or 2?										

WESTERN REFINING – GALLUP REFINERY

SECONDARY CONTAINMENT/ SPILL COLLECTION

MONTHLY / QUARTERLY INSPECTION
SPCC/ OCD PERMIT GW-032 CONDITION 11

DATE OF INSPECTION	INSPECTOR'S NAME	CELL(S)	TANK # OR UNIT	TANK VOLUME BY BARRELS	CELL VOLUME BY BARRELS	PRODUCT	SECONDARY CONTAINMENT, CAPACITY, & DESCRIPTION	INSPECTION FINDINGS (HOUSEKEEPING/ FLUIDS)
		1	344 345 337	21,017 19,064 20,000	31,070	REFORMATE REFORMATE SOUR NAPHTHA	YES, DIRT DIKES	
		2	583	47,430	61,659	DIESEL	YES, DIRT DIKES	
		3, 4, & 5	339 225 226	25,083 25,047 25,054	64,628	SOUR NAPHTHA DISTILLATE SOUR KEROSENE	YES, DIRT DIKES	
		6 & 7 + 8	579 574 576	20,125 39,941 39,918	63,993	DIESEL ST.-RUN GAS LT CAT GASOLINE	YES, DIRT DIKES	
		9	575 577	10,119 10,119	14,205	LSD DIESEL	YES, DIRT DIKES	
		10 & 11	581 582	25,063 25,064	42,588	LCO GASOLINE	YES, DIRT DIKES	
		12 & 13	101 102	81, 110 80,925	105,348	CRUDE OIL CRUDE OIL	YES, DIRT DIKES	
		14 & 15	338 567	25,079 20,000	32,583	SOUR NAPHTHA GASOLINE	YES, DIRT DIKES	

		16 & 17	115 116 111 112	5,020 5,020 5,118 5,119	13,433	DHT PRODUCTS DHT PRODUCTS DHT PRODUCTS DHT PRODUCTS	YES, DIRT DIKES	
		18 & 19	235 106 231 232	5,013 5,012 5,021 5,022	12,849	LSD LSD TRANSMIX TRANSMIX	YES, DIRT DIKES	
		20 & 21	107 108 **342** **343**	5,019 5,021 5,020 5,021	10,444	SLOP-OIL ALKYLATE **ETHANOL** **ETHANOL**	YES, DIRT DIKES	
		22	**227** 228	5,020 5,020	7,257	**SWEET KERO** TREATED KERO	YES, DIRT DIKES	
		23	**451** **452** **453**	1,010 1,010 5,020	7,040	**TOLUENE** **SWEET NAPHTHA** **CONDEMNED**	YES, DIRT DIKES	
		24 & 27	571 572	24,836 24,837	41,658	GASOLINE GASOLINE	YES, DIRT DIKES	
		25	569	24,830	32,279	GASOLINE	YES, DIRT DIKES	
		26	568 716	2,096	2,725		YES, DIRT DIKES	
		28	570	24,823	18,423	GASOLINE	YES, DIRT DIKES	
		29	701 702 703 704 705 706 707 708 709 714	37,000 25,000 25,000 10,000 10,000 10,000 1,700 1,000 1,000 29,000		FCC FEEDSTOCK FUEL OIL FCC FEEDSTOCK	YES, DIRT DIKES & CONCRETE WALLS	
		NA	ALKY	MISC.	TO DRAIN			
		NA	GAS CON	MISC.	TO DRAIN			
		NA	FCC	MISC.	TO DRAIN			

		NA	TRTNG	MISC.	TO DRAIN			
		NA	SATS	MISC.	TO DRAIN			
		NA	CRUDE	MISC.	TO DRAIN			
		NA	DHT	MISC	TO DRAIN			
		NA	SLFR REC	MISC.	TO DRAIN			
		NA	PLTFR	MISC.	TO DRAIN			
		NA	ISOM	MISC.	TO DRAIN			
		NA	NAPH HYD	MISC.	TO DRAIN			
		NA	BLR HSE	MISC.	TO DRAIN			
		NA	CLNG TWRS	MISC.	TO DRAIN			
		NA	API	MISC.				
		NA	OIL WATER SEPERATOR	MISC.				

ADDITIONAL NOTES:

Chavez, Carl J, EMNRD

From: Riege, Ed [Ed.Riege@wnr.com]
Sent: Friday, May 06, 2011 2:58 PM
To: Chavez, Carl J, EMNRD
Subject: FW: Gallup Refinery (GW-032) Disharge Permit Application "Administratively Incomplete" Determination
Attachments: Sections 1-13 _rev 5-4-11_.pdf

One of 2 emails

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Riege, Ed
Sent: Friday, May 06, 2011 1:32 PM
To: Chavez, Carl J, EMNRD
Subject: FW: Gallup Refinery (GW-032) Disharge Permit Application "Administratively Incomplete" Determination

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Riege, Ed
Sent: Wednesday, May 04, 2011 4:14 PM
To: Chavez, Carl J, EMNRD
Cc: VanHorn, Kristen, NMENV; Johnson, Cheryl
Subject: FW: Gallup Refinery (GW-032) Disharge Permit Application "Administratively Incomplete" Determination

Carl,
OCD's comments have been addressed below in red. Revisions to the application are highlighted in yellow in the first PDF (Sections 1-13). The second PDF (Appendix A-I) contains all the appendices old and new. The original figures can be found in the 3rd PDF (Figures 1-5). Talk to you on Friday.

Ed

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, April 29, 2011 2:49 PM
To: Riege, Ed
Cc: Johnson, Cheryl; VanHorn, Kristen, NMENV; Tsinnajinnie, Leona, NMENV; VonGonten, Glenn, EMNRD
Subject: RE: Gallup Refinery (GW-032) Disharge Permit Application "Administratively Incomplete" Determination

Ed:

Good afternoon. I just left you a message regarding the recent discharge permit application for renewal submitted to the OCD. I was hoping to discuss the application with you today. You can give me a call on Tuesday to discuss the application and we have a conference call setup for next Friday. Since I also made some revisions to the draft discharge permit that we will be speaking about next Friday, I have attached the updated version for your consideration to this message.

The OCD deems the Western's renewal application to be "Administratively Incomplete" because it does not adequately address some of the application provisions. Some concerns about the application stem from recent waste water treatment system developments based on the EPA CO that do not appear to be adequately reflected in the application for renewal, i.e., Sanitary Treatment Pond 1- STP-1 (double-lined w/ aeration and leak detection system with diagram that will replace Evaporation Pond 1 and Aeration Lagoons 1 and 2. There is no diagram and the application may have a sentence that briefly mentions it.

The OCD's comments and/or requested information from the provisions of the application form are as follows:

5) The Appendix "A" Facility Diagram does not adequately display tanks or the tank numbering system to cross reference tanks with text in the application on the diagram. Perhaps this map at varying scales could serve to satisfy all of the cross-reference from the application to this diagram, i.e., process locations, drum storage areas, tanks with discernable numbering system, etc.? A separate Storage Tank Table with numbering system has been added as Appendix B-1. Large scale Plant Layout Map has been added to Appendix A. Page 13 No. 9 indicates that drum storage areas are depicted in the Appendix "A" diagram, but the scale is apparently inadequate to discern the locations – Large scale map included to identify locations. Also, Item No. 7 on this same page should include after "Disposal, and or Treatment", since there are also landfarms for treatment at the facility. Language has been added "and/or Treatment" and a description of the Treatment LTU has been added to Item No 7.

6) Page 14 Section 6 and a reference to a tank diagram of sufficient scale to show tank numbers that correspond to chemicals stored in tanks would be useful here. The tank diagram that was submitted for the "Alternate Tank Testing Schedule" may work here for the reader to cross-reference tank numbers with corresponding chemicals and tank specifications? Storage Tank Table has been added as Appendix B-1.

9) The description of the proposed modification of the "treatment systems" in this section needs to be updated. Perhaps some existing diagrams from the approved waste water treatment system under the EPA CO would address this with summary of the changes being made to the existing system? A different scale Appendix "A" diagram displaying the modification would be useful here. Page 11 refers to the existing aeration lagoons without mention of the Sanitary Treatment Pond (STP-1) and the replacement of Evaporation Pond 1. A paragraph has been added to pg 11 which discusses the changes, including STP-1. A reference to a figure displaying the location of the new waste water treatment system should be reference here. Section 9 and Page 29 would also be addressed by the diagram requested above and in the section that actually references the STP-1. The location layout of the new wastewater equipment can be found in newly added Appendix A-1. There is also no mention of the NPDES permit application and potential discharge to "Waters of the State" on Page 11 under Storm Water Handling Management System. A paragraph has been added to the top of pg 12 which mentions the NPDES permit application and how no action has been taken. The NPDES write-up on Page 15 would also help to address Section 7 and effluent. A section addressing this has been added to Section 7 on pg 16. Page 12 No. 5 indicates that sanitary sewage is treated at the lift station and release at AL1. This section has been revised to

include STP-1. A reference to Appendix A diagram for septic fields, but this should include a discussion on STP-1 and a reference to a diagram of sufficient scale to discern the text discussion. Additional blow up diagrams have been added to Appendix A.

10) There was no routine inspection and maintenance plan corresponding to the discharge permit submitted or incorporated into this section. Perhaps the templates used for operation and maintenance of refinery units and any other relevant to this provision developed based on the discharge permit requirements could be submitted to address this provision? Section 10 on Page 30 is the section that the above pertains to and most of the text in this section does not appear to address inspection and maintenance. This section has been revised to include inspection and maintenance activities and inspection forms and SOPs used.

11) There is no inclusion of the applicable Water Quality Control Commission (WQCC) and OCD oil and gas regulations from the discharge permit included in this section nor any reference to the C-141 notification form and requirements for reporting spills or releases with corrective actions. Section 11 on Page 34 is the section that the above should be included. The above reference to Section 11 has been added.

12) The depth to and quality of ground water was not adequately discussed in this section. For example, there appear to be 2 to 3 different aquifer systems with associated wells to understand the contaminant hydrogeology beneath the facility, but there is no discussion on the general chemistry in them or piezometric and potentiometric heads from the aquifer systems. Perhaps upgradient background water quality information and depth to water in these systems could be provided to address this section? Section 12 on Page 35 is the section that the above should be incorporated into. Additional site characteristic language has been added to Section 12.

13) The facility closure plan was not included in the application. Instead, there is RCRA SWMU information, but nothing that pertains to the existing OCD Dischage Permit, i.e, pond closure, etc. A study of WQCC § 20.6.2 et seq. NMAC and the discharge permit may help with this. Sectoin 13 on Page 40 is the section where the closure plan information requested above should apply. A new paragraph has been added to Section 13 on pg. 42 to discuss the closure plan. The Closure Plan minus Figures and Appendices has been added as Attachment H.

Other requested items:

Appendix "E" Stratigraphy Map is missing and needs to be submitted from the report. (Waiting on our geologist consultant Bill Kingsley – maps were out for print last week)

Appendix "G" Contingency Plan (CP) must meet WQCC OCD Discharge Permit requirements at a minimum. For example, on Page 39 there is questionable language on "oil contaminated debris", "sand and gravel" and "oil absorbent materials" that does not seem to be in compliance with WQCC Regulations. The Disposal Section of the Plan has been revised to address these concerns. Perhaps a disclaimer in the CP that all actions herein must comply with the applicable state, federal and local regulations shall also be addressed would work in the CP? A disclaimer has been added to the front page of the Contingency Plan. The table at the back of CP with a numbered tank diagram is required here. A tank identification table has been attached at the end of the Plan.

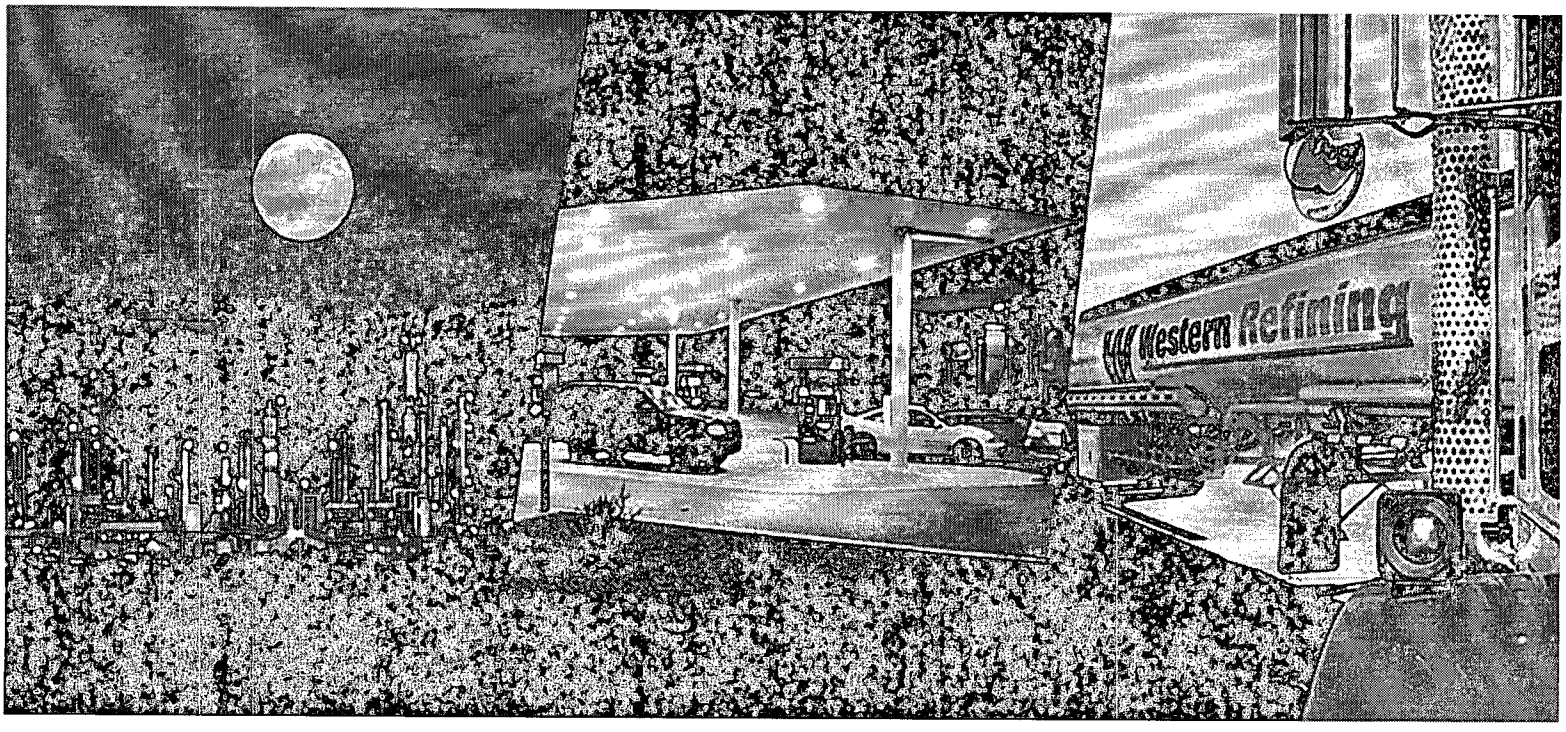
The OCD recommends that Western simply submit a response with any attachments, i.e., diagrams, that will address the OCD's comments and/or request for more information to address the discharge plan application for renewal. Please contact me if you have questions.

Please find attached the OCD's current DP Renewal Draft based on the above and that we may discuss next Friday during our conference call. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

OCD Discharge Plan Renewal Application
Permit No. GW-032

Submitted: April 5, 2011
Revision 1: May 4, 2011



Submitted to: State of New Mexico / Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Submitted by: Western Refining Company
Route 3 Box 7
Gallup, New Mexico 87301

LIST OF ACRONYMS

AL	Aeration Lagoons
BLM	Bureau of Land Management
BMPs	Best Management Practices
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BW	Boundary Well
COD	Chemical Oxygen Demand
DAF	Dissolved Air Flotation
DGF	Dissolved Gas Flotation
DRO	Diesel Range Organics
EP	Evaporation Ponds
EPA	Environmental Protection Agency
GPM	Gallons per minute
GRO	Gasoline Range Organics
GWM	Water Monitoring Well
HWB	Hazardous Waste Bureau
MPPE	Macro Porous Polymer Extraction
MTBE	Methyl Tert Butyl Ether
MW	Monitoring Well
NAPIS	New American Petroleum Institute Separator
NMED	New Mexico Environment Department
OCD	Oil Conservation Division
OW	Observation Well
PPM	Parts per million
PW	Production/Process Well
RO	Reverse Osmosis
RW	Recovery Well
SPH	Separate Phase Hydrocarbons
SPCC	Spill Prevention, Containment & Countermeasures
STP	Sewage Treatment Pond
SVOC	Semi-volatile Organic Compounds
SWPPP	Storm Water Pollution Prevention Plan
VOC	Volatile Organic Compounds
WQCC	Water Quality Control Commission
WWTP	Waste Water Treatment Plant

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Appendix

Section 1.0 Type of Operation

The Gallup Refinery is a crude oil refining facility.

The Standard Industrial Classification (SIC) code is 2911 and the NAIC is 32411.

The refinery receives and processes crude oil and other feedstocks producing various finished products; including propane, butane, naphtha, unleaded gasoline, diesel, kerosene and residual fuel.

Section 2.0 Name of Operator or Legally Responsible Party or Representative

Owner: Western Refining, Inc., (Parent Corporation)
123 W. Mills Avenue
El Paso, TX 79901

Operator: Western Refining Southwest, Inc. (Postal address)
Route 3, Box 7
Gallup, New Mexico 87301

Western Refining Southwest, Inc. (Physical address)
I-40, Exit 39
Jamestown, New Mexico 87347

Key Contact: Mark B. Turri, General Manager

Telephone: (505) 722-3833

E-mail: mark.turri@wnr.com

Section 3.0 Location of the Discharge Plan Facility

The Gallup Refinery is approximately 17 miles east-southeast of the City of Gallup in McKinley County, located within the west-central region of the State of New Mexico. It is more specifically located immediately north of Interstate 40 at Exit 39, and approximately one mile northeast of the Pilot (Formerly Giant) Travel Plaza, see Figure 1.

The refinery is situated on an 810 acre irregular shaped tract of land that is substantially located within the lower one quarter of Section 28 and throughout Section 33 of Township 15 North, Range 15 West of the New Mexico Prime Meridian. A small component of the property lies within the northeastern one quarter of Section 4 of Township 14 North, Range 15 West. (Latitude 35°29'30" and longitude 108°24'40"), see Figure 2. An aerial map of the refinery is also provided as Figure 3.

Section 4.0 Landowners

Prior to 1957, the land area encompassing the Gallup Refinery was federal land managed by the Bureau of Land Management (BLM). In 1957, the El Paso Natural Gas Company obtained the land from the BLM and constructed the refinery near a former depot location along the adjacent railroad known locally as Ciniza. The refinery was purchased and operated by Shell Oil Company until 1982. The refinery was purchased in 1982 and operated by Giant Industries Arizona, Incorporated until May 2007. In May 2007, Western Refining, Inc. acquired all of Giant's stock from Giant (but not the assets) and currently operates the refinery as Western Refining Southwest, Inc. Western Refining Southwest, Inc. refers to the refinery as the *Gallup Refinery*.

Section 5.0 Facility Description

Built in the 1950's, the Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown, New Mexico, 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope of the continental divide.

The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Pilot Travel Center (formerly Giant) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than 7 inches per year.

The refinery primarily receives crude oil via two 6 inch diameter pipelines; two pipelines from the Four Corners Area enter the refinery property from the north. In addition, the refinery also receives natural gasoline feed stocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Conoco gas plant. Crude oil and other products also arrive at the site via railroad cars. These feed stocks are then stored in tanks until refined into products.

The refinery incorporates various processing units that refine crude oil and natural gasoline into finished products. These units are briefly described as follows.

- The Crude Distillation Unit separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residuals.

- The Fluidized Catalytic Cracking Unit (FCCU) dissociates long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.

- The Alkylation Unit combines specific types of hydrocarbon molecules into a high octane gasoline blending component.

- The Reforming Unit breaks up and reforms low octane naphtha molecules to form high octane naphtha.

- The Hydro treating Unit removes undesirable sulfur and nitrogen compounds from intermediate feed stocks, and also saturates the feeds tocks with hydrogen to make diesel fuel.

- Additional Treater Units later also remove impurities from various intermediate and blending feed stocks to produce finished products that comply with sales specifications.

- The Isomerization Unit converts low octane hydrocarbon molecules into high octane molecules.
- A set of Acid Gas Treating and Sulfur Recovery Units convert and recover various sulfur compounds from other processing units and then produce either Ammonium Thiosulfate or a solid elemental sulfur byproduct.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel. In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feed stocks, finished products, chemicals, and water. These tanks are all located above ground and range in size from 80,000 barrels to less than 1,000 barrels.

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units. A railroad spur track and a railcar loading

rack are used to transfer feed stocks and products from refinery storage tanks into and out of railcars. Several tank truck loading racks are used at the refinery to load out finished products and also may receive crude oil, other feed stocks, additives, and chemicals. Gasoline and diesel is currently delivered to the Pilot Center via tanker truck. An underground diesel pipeline exists between the refinery and Pilot and Western is working with OCD and PSTB to place this line back into service.

A firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vacuum truck. The vacuum truck pumps the oily water into a process sewer leading to the New API Separator (NAPIS).

Process Waste Water Treatment System

The process waste water system is a network of curbing, paving, catch basins, and underground piping that collects waste water effluent from various processing areas within the refinery and then conveys this waste water to Tank 35(T-35) and then to the NAPIS.

T-35 is an equalization tank which handles large process and storm water flows allowing the flow to the NAPIS to be controlled during process and storm water events. The equalization tank is also used to store the waste water for a couple of days if problems are encountered with the downstream equipment, i.e., NAPIS and the benzene strippers and in the future the new DAF and MPPE units.

The NAPIS is a two compartment oil water separator. Oil is separated from water based on the principle that, given a quiet surface, oil will float to the water surface where it can be skimmed off. The skimmed slop oil is passed to a collection chamber where it is pumped back into the refinery process. The clarified water is piped to three benzene strippers where benzene is removed. The stripped water flows into the first aeration lagoon. Sludge sinks to the bottom of the NAPIS which is periodically vacuumed out by a vacuum truck and disposed of as hazardous waste at an approved landfill or recycled and reused in refineries that have this allowable exemption under RCRA.

At the benzene strippers, ambient air is blown upwards through the falling cascade of clarified waste water as it passes through distillation column packing. Countercurrent desorption of benzene from the water occurs due to the high volume of air passing over the relatively large surface area provided by the packing. The desorbed benzene is absorbed into the air stream and vented to the atmosphere. Effluent from the stripper columns gravity flows through piping into the first aeration lagoon.

At the aeration basins, the treated waste water is mixed with air in order to oxidize any remaining organic constituents and increase the dissolved oxygen concentration available in the water for growth of bacteria and other microbial organisms. The microbes degrade most of the hydrocarbons into carbon dioxide and water. Three 15-hp mechanical aerators provide aeration in the first aeration lagoon with two 15-hp aerators providing aeration in the second

lagoon. Effluent from the second aeration lagoon flows onward into the first of several evaporation ponds of various sizes.

In 2012 the benzene strippers, aeration lagoons 1 and 2, and evaporation pond 1 will be removed from service and replaced with upgraded waste water treatment equipment, a DGF (dissolved gas flotation) and MPPE units and a aerated sanitary treatment pond STP-1. This new equipment will be placed into service and operational by February 29, 2012. The end of the new system start up grace period is May 31, 2012. According to the Corrective Measures Implementation Work Plan, Solid Waste Management Unit (SWMU) No. 1 Aeration Basin schedule, the original benzene strippers will be dismantled within 5 weeks of the May 31, 2012 grace period end date and the aeration lagoons 1, 2 and evaporation pond 1 closure activities within 23 weeks. The location layout of the new waste water equipment can be found in Appendix A-1.

At the evaporation ponds, waste water is converted into vapor via solar and mechanical wind-effect evaporation. No waste water is discharged from the refinery to surface waters of the state because all of the waste water evaporates.

Storm Water Handling Management System

The storm water system is a network of valves, gates, berms, embankments, culverts, trenches, ditches, natural arroyos, and retention ponds that collect, convey, control, treat, and release storm water that falls within or passes through refinery property. Storm water that falls within the processing areas is considered equivalent to process wastewater and is sent through the NAPIS, benzene strippers and waste water treatment system for retention in evaporation ponds. Storm water discharge from the refinery is very infrequent due to the arid desert-like nature of the surrounding geographical area.

The Gallup Refinery currently operates under the Multi-Sector General Permit 2008 (MSGP-2008). Gallup Refinery submitted a new NOI for coverage under the new MSGP. The refinery maintains a storm water pollution prevention plan (SWPPP) that includes Best Management Practices (BMPs) for effective storm water pollution prevention. The refinery has constructed several berms in various areas and improved outfalls (installed barrier dams equipped with gate valves) to minimize the possibility of potentially impacted runoff leaving the refinery property.

On June 25, 2009 the Refinery submitted an application to the EPA for a NPDES permit. The EPA reviewed the application and deemed it complete on March 5, 2010 and has not acted on the application since that time. The application was no discharge except for an emergency situation to allow the refinery to discharge treated water from one of the evaporation ponds in the event the ponds were filled to capacity and ready to breach their berms.

Items Specifically Requested in the OCD Guidance Document

1. *Location of Fences:*

The refinery incorporates an outer perimeter fence that substantially consists of barbed wire and posts, and roughly corresponds to the property boundaries. In addition, interior zones of 8 foot high chain link fencing are installed around the process areas, warehouse yards, storage pads, loading racks, and other sensitive areas. The locations of these fence lines are shown on the plant site drawing in Appendix A.

2. *Location of Pits:*

The refinery no longer uses earthen pits for waste accumulation. The locations of former pits are shown on the plant site drawing in Appendix A. All of these former pits have been excavated, remediated, and backfilled with clean soil.

3. *Location of Berms:*

The refinery uses earthen berms to form secondary containment basis for tankage and also for storm water flow control and outlying retention basins. The locations of these berms are shown on the plant site drawing in Appendix A.

4. *Location of Tanks:*

The refinery uses above ground tanks for storage at various locations within the refinery. The locations of these tanks are shown on the plant site drawing in Appendix A. Large grouping of tanks are identified as named tank farms. This includes the following:

- Main Tank Farm
- Hot Oil Tank Farm
- Tank Truck Loading Rack Tankage Area
- High Pressure Storage Bullets Area
- Hydrogen Storage Bullets Area

5. *Location of Discharges:*

Treated process waste water is evaporated at the evaporation ponds. Storm water that is not contained on-site is released off-site at two outfall locations. Outfall No. 1 is located on the western boundary of refinery property near Evaporation Pond 8, while Outfall No. 2 is located at the eastern boundary north of the Railroad Loading rack. Intentional releases, if necessary, are made only after careful inspection of the water for the presence of oil or other contaminants. During extreme rainfall events, some storm water may exit refinery property via sheet run-off at the northern and western boundaries.

Currently sanitary sewage is treated at the lift station and released at aeration lagoon one. An aerated sanitary treatment pond is being constructed in 2011 and will be placed into service the first quarter of 2012 allowing the closure of aeration lagoons 1 and 2 and evaporation pond 1.

The locations of the evaporation ponds, storm water outfalls, and septic field are shown on the plant site drawings in Appendix A.

6. *Location of Storage Facilities:*

The refinery uses warehouses, outdoor yards, and curbed pads for storage of various materials and equipment within the refinery. The locations of these storage facilities are shown on the plant site drawing in Appendix A.

7. *Location of Disposal **and/or Treatment** Facilities*:

The refinery uses an OCD-permitted land farm identified as Central Land Farm to treat non-hazardous oily residue that is intermittently generated within the refinery. The OCD-permitted land farm is not currently receiving additional waste material and will remain as such until existing hydrocarbon constituents are more fully biodegraded. The OCD land farm is tilled on a bi-monthly basis. There is also a temporary OCD land farm identified as NE Land Farm. Gallup is currently working with OCD to close this land farm by time of permit renewal.

The LTU is approximately 1500 feet northwest of the refinery process area and is above the 100 year flood plain. The LTU consists of three 480 feet x 240 feet sections located immediately east of evaporation pond 12B. Each section is diked and contains 2.6 acres (1.0 hectare) of available treatment surface. The primary purpose of the LTU (Land Treatment Unit) is the degradation, transformation, or immobilization of hazardous wastes using microbial activity and soil characteristics. The top 12 inches of soil, the Zone of Incorporation (ZOI) was periodically plowed and disked to encourage aerobic microbial activity and improved chemical reaction rates. During post closure maintenance activities, soil nutrients will be applied as necessary. During the post closure period, no hazardous waste, non-hazardous waste, refinery waste, or other material will be applied to the LTU. On April 4, 2011 a Closure Certification for the Land Treatment Unit was prepared by Mike Brazie of Gannett Fleming and submitted on behalf of Western Refining to NMED. On April 26, 2011 NMED approved the Closure Certification.

Bioventing: May elect to install a passive bioremediation system at any on-site installation of an Ultra Low Sulfur Diesel (ULSD) fuel spill. Monitoring at the time of any petroleum liquid spill requires the permittee to: 1) Estimate spill volume and quantity of petroleum liquid that is unrecoverable through excavation, and 2) determine if spill liquid contained detectable quantities of benzene. If present, the quantity of benzene waste generated shall be estimated and included in the facility Total Annual Benzene (TAB) calculation as required by the ASFO dated 1/22/09, Section XIII.G., 3) If a passive bioremediation system is installed at any ULSD spill site, the permittee shall estimate the quantity of VOC and HAP compounds that will be emitted to the atmosphere annually through the bioremediation vent system. A copy of the blank Log can be found in Appendix I.

Recordkeeping: The permittee shall maintain records of each petroleum liquid spill, noting the date, time and quantity of recovered liquid. The record shall include the results of the benzene test or other documentation used to determine the absence or presence of benzene. If benzene is present, the record shall include the quantity of benzene waste generated as a result of the spill. Records shall be maintained that describe each ULSD passive bioremediation system installed, the location on site, the beginning and end dates for the remediation activity, and the annual VOC and HAP emission rates associated with the activity.

8. *Location of Processing Facilities:*

   The refinery uses various processing units and support systems as described above. The locations of these facilities are shown on the plant site drawing in Appendix A.

9. *Location of Other Relevant Facilities Including Drum Storage*:

   The locations of drum storage and other relevant facilities are labeled and shown on the plant site drawing in Appendix A.

Section 6.0 Materials Stored or Used at the Facility

The refinery receives, stores, and processes crude oil and other petroleum based feed stocks and produces various intermediate feed stocks and finished products, including propane, butane, unleaded gasoline, diesel, kerosene, and residual oil. These materials are stored in above ground atmospheric and pressurized tanks and are listed on Table 6.1 and Table 6.2 in Appendix B. These tables include the following information. *See Appendix B-1 for location of tanks listed in Table 6.1.*

- Tank name
- Contents
- Material of Construction
- Year Tank was Built or Most Recently Modified
- Volume
- Location

The refinery also receives stores and uses a variety of additives, chemicals and other sensitive materials in order to support the operation of the refinery. These materials are listed on Table 6.3 in Appendix B. This table includes the following information.

- Material Name
- Maximum Quantity Stored On Site at Any Given Time
- Location

Items Specifically Requested in the OCD Guidance Document

The OCD guidance document specifically requires that the following categories be included in the material list.

- Process Specific Chemicals
- Acids / Caustics
- Detergents / Soaps
- Solvents / Inhibitors / Degreasers
- Paraffin Treatment / Emulsion Breakers
- Biocides
- Other

The tables in Appendix B include the materials that correspond to the above categories.

Section 7.0 Sources and Quantities of Effluent and Waste Solids Generated at the Facility

The following processing units, systems, equipment, and categories are potential sources of waste water effluent or waste solids generated at the refinery.

Sources of waste water effluent include the following. Discharges are collected in the refinery process sewer system and flow to the NAPI separator.

Boiler Feed Water Treatment System

Raw water is treated in this equipment in order to remove impurities before being supplied as feed water to the refinery boilers. In the past waste water containing dissolved solids was routinely discharged to Evaporation Pond 2 via a dedicated drainage line from the water softening units and reverse osmosis (RO) units. This line has now been tied into the process

sewer system which connects to the NAPIS. Gallup would like to keep the flexibility to use the discharge line to evaporation pond 2 in the event of an emergency.

This discharge typically ranges from 70,000 to 100,000 gallons per day.

Treated Evaporation Pond Water

The Refinery submitted an NPDES permit application to discharge treated water from one of the evaporation ponds in an emergency where the ponds were filled to capacity and ready to breach their berms. The application has not been acted upon.

Boilers

Five boilers are in service at the refinery: two cogeneration boilers, two utility boilers and one CO boiler. Waste water containing dissolved solids is routinely discharged to the process sewer from these boilers.

This discharge typically ranges from 20,000 to 30,000 gallons per day.

Cooling Towers

Two cooling towers are in service at the refinery. Waste water containing dissolved solids and biocide residue is routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 20,000 to 50,000 gallons per day.

Crude Unit

Two desalters at the crude distillation unit are used to remove impurities and water from the crude oil. Waste water containing dissolved solids and trace hydrocarbons are routinely discharged to the process sewer from this equipment.
This discharge typically ranges from 30,000 to 40,000 gallons per day.

Naphtha Hydrotreater Unit (NHT)

One overhead accumulator drum at this processing unit is used to remove condensed water. Waste water containing trace hydrocarbons is routinely discharged to the process sewer from this accumulator drum.

This discharge typically ranges from 600 to 800 gallons per day.

Alkylation Unit Scrubber

A scrubber tower at the alkylation unit is used to remove impurities and entrained water from a gas stream. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 1,500 to 2,000 gallons per week.

Butane Treater Column

A caustic wash column at this treater unit is used to remove impurities from butane products. Occasionally, this caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 300 to 350 gallons per week.

Straight Run Gasoline Treater Columns

A caustic wash column and a water wash column at this treater unit are used to remove impurities from an intermediate gasoline feed stock. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from the caustic wash column and routinely discharged from the water wash column.

This discharge typically ranges from 900 to 1000 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

Light Cat Gasoline Treater Column

A caustic wash column at this treater unit is used to remove impurities from a gasoline product. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 900 to 1,000 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

Alkylation Treater Column

A caustic wash column at this treater unit is used to remove impurities from an intermediate gasoline feed stock. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 900 to 1,000 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

KOH Treater Columns

Six scrubber towers at these treater units are used to remove impurities from propane and butane product streams. Waste water containing dissolved solids and trace hydrocarbons are routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 100 to 150 gallons per day.

Diesel/Kerosene Treater Columns

Four salt wash columns are used to remove impurities from diesel and kerosene product streams. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 250 to 800 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

Sour Water Ammonia Thiosulfate (SWAATS)

At the SWAATS, ammonia and sulfur compounds will be captured and converted into ammonia thiosulfate – $3(NH_4)_2S_2O_3$)-. The ammonia thiosulfate is used as fertilizer in

agriculture. The SWAATS unit is expected to result in lower emissions of sulfur compounds into the air and in the reduced input of ammonia into the refinery waste water.

Sulfur Recovery Unit (SRU)

At the SRU, sulfur compounds are recovered from refinery feed stocks and then converted into a wet solid. Waste water from a rinsing operation and a belt press dewatering operation is routinely discharged to the process sewer. This waste water contains dissolved solids and trace sulfur compounds. The SRU can be used in conjunction with or as a backup to the SWAATS.

This discharge typically ranges from 25,000 to 35,000 gallons per day.

Storage Tanks

Numerous above ground storage tanks are used within the refinery to store various products and intermediate feed stocks. Waste water containing dissolved solids and trace hydrocarbons are occasionally drained from these tanks as bottom water or decanted water and then discharged to the process sewer.

This discharge typically ranges fro 1,800 to 2,500 gallons per day. Most of this discharge comes from the crude oil storage tanks.

Heat Exchanger Back Flushing

Heat exchangers in all the processing units must be routinely back-flushed to clean out deposits. The amount of back flush water discharged is in the order of 25,000 gallons per week. The water is discharged into sewers that lead to the new API separator and through the benzene strippers prior to discharge to aeration lagoon 1.

Sources of solid waste include the following. Most of these waste materials are generated intermittently and then removed, collected, containerized, and stored until shipped off-site for recycling or disposal.

Fluid Catalytic Cracking Unit (FCCU) Catalyst

A metallic (alumina) catalyst is used within the FCCU to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is off-loaded into a bulk tank truck which then transports material for disposal to an off-site landfill. This material is a dry metallic solid and is non hazardous.

Approximately 200 to 400 tons of spent FCCU catalyst is generated each year.

Defluorinator Unit Catalyst

A metallic (alumina) catalyst is used within the Defluorinator Unit to remove trace fluorine from propane and butane products. This catalyst is periodically replaced and the spent catalyst is stored in super sacks until disposed of at an off-site landfill. This material is a dry metallic solid and is non hazardous.

Approximately 30 to 150 tons of spent Defluorinator catalyst is generated each year.

Reforming Unit Catalyst

A metallic (platinum) catalyst is used in the reforming unit to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. This material is a dry metallic solid and is shipped as a DO18 hazardous waste due to the presence of trace benzene.

Approximately 10 to 15 tons of reformer catalyst is generated every one to two years.

Naphtha/Diesel Hydrotreating Units (NHT/DHT) Catalyst

Metallic catalysts are used in these treating units to convert hydrocarbon molecules. These catalysts are periodically replaced and the spent catalysts are recycled by an off-site metal recovery service. This material is a dry metallic solid and is shipped as a K171 hazardous waste.

Approximately 1 to 55 tons of hydrotreater catalyst is generated each year.

SWAATS Catalyst

The new Sour Water Ammonia Thiosulfate Unit (SWAATS) will generate several barrels of spent catalyst every 2 to 3 years. This will be disposed of in a local landfill as it will be non-hazardous.

Spent Zinc Oxide Catalyst

A metallic (zinc) catalyst is used in the isomerization unit to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. Gallup Refinery would also like the option to be able to dispose of this material in a local landfill (Northwest New Mexico Regional Solid Waste Authority in Thoreau, New Mexico). This material is a dry metallic solid is non hazardous. OCD's Rule 712 under Section 19.15.9.712.D.3 states that catalyst may be disposed of on a case by case basis after testing required at the discretion of the OCD and after written authorization of the Division.

Approximately 2 to 3 tons of zinc oxide catalyst is generated every two years.

Sulfur By Product

Elemental sulfur by product is routinely generated at the SRU. This solid residue is stored in super sacks until shipped off for disposal at a landfill.

Approximately 6 to 50 tons of sulfur by product is currently generated each year. The quantity of waste sulfur was cut significantly once the new SWAATS unit was put into service.

Vapor Recovery Unit (VRU) Used Seal Fluid

An air pollution control system is used to capture vapor emissions during tank truck loading. This system used ethylene glycol as a seal fluid in a vacuum pump. Periodically, this fluid must be replaced.

Approximately 330 gallons of used ethylene glycol is generated per change out.

Heat Exchanger Bundle Cleaning Pad Oily Sludge

Heat exchanger bundles are periodically cleaned in order to restore heat transfer performance. This cleaning activity is conducted within a concrete enclosure that incorporates a waste water accumulation sump. Oily sediment and sludge may accumulate in the bottom of this sump. Waste water flows from this sump into the process sewer.

The heat exchanger bundle cleaning sludge is a listed hazardous waste (KO51) and is collected and contained in 55 gal drums until disposed of at an off site hazardous waste disposal facility.

The quantity of this waste typically ranges from 1 to 5 tons per year.

Process Sewer System Sludge

Sediment, sludge, and other debris can occasionally accumulate within the piping, junction boxes, and interceptor manholes that comprise the process sewer system. These materials are periodically removed via a vacuum truck and upon removal are classified as a hazardous waste (FO37) unless this material can be recycled. This material is drummed or placed into a frac tank for recycling offsite.

Maintenance Shops

Most process equipment ad mobile equipment is repaired and maintained at the refinery maintenance shops. Waste oils and antifreeze are collected in 55 gallon drums and recycled.

Approximately 2 drums of anti-freeze and 4 drums of used motor oil are generated each year.

Quality Control Laboratory

Residual petroleum products are recycled in the refinery. Residual or expired reagents and other discarded chemicals are stored in lab packs until disposed of off site.

OCD Land Farm

Oily non hazardous solid waste is treated at the OCD permitted land farm located on site.

The quantity of oil solid waste typically ranges from zero to 10 tons per year.

RCRA 90-Day Accumulation Pad

All drummed hazardous waste are kept at the RCRA 90 Day Accumulation (concrete) Pad until shipped off site for recycling, treatment, or disposal. Except for process system sewer waste removed by vacuum trucks, hazardous wastes are placed in DOT containers and kept on this dedicated concrete pad. The pad is equipped with continuous concrete curbing with more than enough capacity to contain a leaking drum's contents. The pad is posted with the appropriate signs and provided with a fire extinguisher. The pad is inspected on a weekly basis.

Aerosol Spray Cans

Most aerosol spray cans at the refinery contain paint. All aerosol spray cans that have been used up or that have been discarded for other reasons are collected and carried to the satellite

waste accumulation area. All cans are then checked for condition. All cans are punctured and drained into a dedicated 55 gallon drum. The cans are recycled as scrap metal. The drum contents are sent out for disposal as a hazardous waste.

Typically 1000 to 1500 aerosol spray cans are discarded each year.

Asbestos Containing Material (ACM)

Historically, asbestos containing materials have been used within the refinery for pipe and tank insulation. Occasionally, these materials must be removed and disposed of as part of normal maintenance activities. All friable ACM is abated in compliance with EPA and NMED regulations. ACM is placed into closed open headed 55 gallon drums, labeled and stored in a fenced enclosure in the scrap yard until arrangements are made for transport to a licensed asbestos disposal facility. Large pieces of ACM such as piping are placed into large roll-off boxes provided by the contractor and transported to a licensed asbestos landfill.

The quantity of ACM disposed of each year is highly variable, and ranges from zero to as much as 50 cubic yards.

Lead/Acid Batteries

Spent lead acid batteries are returned to the warehouse and managed as universal waste. The number of batteries recycled each year is highly variable and ranges from 40 to 75 units.

Ni-Cad Batteries

Spent nickel-cadmium batteries are returned to the warehouse and managed as universal waste. The number of batteries discarded each year is highly variable and ranges from 30 to as much as 80 units.

Spent Mercury Vapor Lamps

These are managed as universal waste.

Spent Fluorescent Bulbs

These are managed as universal waste

Used Computer Equipment, Monitors, Hard Drives

These are managed as universal waste.

Spent Sand Blasting Media

Sand blasting is occasionally conducted at the refinery as part of normal maintenance activities. After repeated reuse, the sand grit becomes degraded and loses its abrasive action. When this occurs, the spent sand blasting media must be replaced. This material is then stored in drums until disposed of at an off site landfill. This material is non hazardous.

The quantity of spent sand blasting media typically ranges from zero to 2 tons per year.

Spent Carbon from the Vapor Capture Vessels at the New API Separator

Spent carbon is sent out to be re-charged.

Section 8.0 Description of Current Liquid and Solid Waste Collection/Storage/Disposal Procedures

The following procedures are used to manage the waste water effluents and solid wastes that are generated within the refinery as described in Section 7.0.

Process Waste Water/Storm Water

Process waste water/storm water is generated at various refinery processing units, storage tanks, utility systems, and maintenance activities as described in Section 7.0. This water is collected in a sewer system located throughout the refinery processing and tankage areas. This collection system is substantially composed of concrete paving and curbing, concrete catch basins and trenches, and buried concrete and carbon steel pipe. Waste water flows by

gravity to the new equalization tank (T-35) and then to the new API separator (NAPIS) where solids, sludge, and floating scum are removed. From the NAPIS, the clarified effluent flows down to the benzene strippers and then on to the aeration basins and evaporation ponds. This waste water is ultimately converted into vapor via solar ad mechanical wind effect evaporation.

Process Sewer System Sludge

Oily sediment and sludge accumulates within the piping, junction boxes and man holes of the process sewer system. This sludge is periodically removed using vacuum trucks and typically remains within the truck until it is shipped off-site for disposal or recycling. Sewer system sludge is typically incinerated or disposed of at either of the following facilities.

Motiva Enterprises, LLC – Norco Refinery
15536 River Road
Norco, LA 70079
EPA ID: LAD008186579

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Univar
US Ecology Texas
3277 County Road 69
Robstown, TX 78384

API Separator Sludge

Oily sediment and sludge accumulates at the bottom of the API separator. The API separator is taken out of service annually and the bottom sludge is removed via vacuum trucks. This sludge typically remains in the truck until it is shipped off-site for recycling.

API separator sludge is recycled as a feed stock to a petroleum Coker at the Norco Refinery.

Motiva Enterprises, LLC – Norco Refinery
15536 River Road
Norco, LA 70079
EPA ID: LAD008186579

Storage Tank Bottom Sludge

Oily sludge accumulates at the bottom of storage tanks (e.g. crude oil, FCCU feed tanks). These tanks are periodically taken out of service and the sludge is removed, containerized, and shipped off-site for oil recovery, treatment and disposal.

Motiva Enterprises, LLC – Norco Refinery
15536 River Road
Norco, LA 70079
EPA ID: LAD008186579

Univar
US Ecology Texas
3277 County Road 69
Robstown, TX 78384

Heat Exchanger Bundle Cleaning Pad Sludge

Oily sludge accumulates at the bottom of the cleaning pad sump. At the conclusion of the exchanger cleaning operation, this sludge is removed, placed in 55 gallon DOT drums, and then shipped off site for oil recovery, treatment or disposal.

Heat exchanger sludge is typically incinerated or disposed of at the following facility:

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Oily Non Hazardous Soil and Debris

Oily soil and debris is occasionally generated within the refinery due to maintenance activities, leaks, or spills. This material is collected, containerized, and then may either be treated at the OCD land farm or shipped off site for oil recovery, treatment and disposal.

When sent off site, oily soil and debris is typically disposed of at either of the following facilities:

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032

EPA ID: AZR05B244

Gandy-Marley Land Fill
Us 380 East
Roswell, NM

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Spent FCCU Catalyst

This material is a non hazardous dry solid that is off loaded into a bulk tank truck after removal from the FCCU.

Spent FCCU catalyst is typically disposed of at either of the following facilities:

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No. SWM-172203

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Spent Reformer Catalyst

This material is a dry solid that is stored in drums or super sacks after removal from the reformer. Occasionally it is re-processed on site and then placed back into the reformer. On other occasions, it is shipped out via truck as a benzene characteristic (DO18) hazardous waste for recycling at an off site facility.

When sent off-site, spent reformer catalyst is recycled at either of the following facilities:

Tricat, Inc.
Spent Catalyst Regeneration Facility
100 Taylor Blvd.
McAlester, OK 74501
EPA ID: OKD987097151

Spent NHT/DHT Catalyst

This material is a dry solid that is stored in drums or super sacks after removal from the treater units. After removal, it is shipped out via truck as a K171 hazardous waste and recycled at an off site facility.

When sent off site, spent treater catalyst is recycled at either of the following facilities:

Tricat, Inc.
Spent Catalyst Regeneration Facility
100 Taylor Blvd.
McAlester, OK 74501
EPA ID: OKD987097151

Eurecat
13100 Bay Park Road
Pasadena, TX 77505
EPA ID: TXD06829963

Catalyst Recovery of LA, LLC
100 America Blvd.
Lafayette, LA 70508
EPA ID: LAD980622161

Spent Defluorinator Catalyst

This material is a non hazardous dry solid that is stored in drums or super sacks after removal from the defluorinator.

Spent defluorinator catalyst is typically disposed of at either of the following facilities:

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No. SWM-172203

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Zinc Oxide Catalyst

Spent zinc oxide catalyst is collected in super sacks and then shipped by truck to the northwest New Mexico Regional Solid Waste Authority in Thoreau, New Mexico.

SRU Sulfur By Product

This material is a non hazardous wet solid that is drained and stored in super sacks after being generated at the SRU.

Sulfur by product is typically disposed at either of the following facilities.

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No. SWM-172203

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Mercury Contaminated Waste Materials

Fluorescent light bulbs, instrument contents are handled as universal waste and transported via truck and recycled at:

Recyclights
405 W. 86th Street
Minneapolis, MN 55420
EPA ID: MND000903463

Excess or off-spec Chemicals

These materials are typically generated at the quality control laboratory and then placed in lab pack disposal containers. Gallup Refinery contracts the services of Rinchem to properly handle, treat, and/or dispose of used chemical lab packs at:

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Asbestos Containing Material (ACM)

The materials are regulated as a special waste and are stored in doubled plastic bags and placed inside a 55 gallon DOT drum and disposed of at the licensed Keers Environmental land fill in Mountainair, New Mexico at:

Keers Environment, Inc
Disposal Site

Mountainair, NM 87036
EPA ID: NMD147273528

Cooling Tower Sludge and Salt

This material is generated in the cleaning of cooling towers and contains primarily sodium and chloride. This material is non hazardous and none detect for TCLP metals. Gallup Refinery has made application to dispose of this material at:

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No SWM-172203

Section 9.0 Proposed Modifications

A new equalization tank (T-35) was constructed in 2010 and placed into service on 1/13/11. Process waste water and storm water now flows into T-35 which controls flow to the NAPIS. The equalization tank (T-35) is also used to store waste water for a couple of days if problems are encountered with downstream equipment (NAPIS and Benzene Strippers) and in the future with the new DGF (Dissolved Gas Flotation) and MPPE units.
The OAPIS will be taken out of service by March 1, 2011.

An upgraded waste water treatment plant and diversion tank system will be constructed and startup is scheduled for February 29, 2012. A new DGF (Dissolved Gas Flotation) unit and MPPE unit will be installed after the NAPIS. The purpose of the new waste water treatment plant is to reduce Benzene in waste water effluent to below 0.5 ppm and allow the benzene strippers to be taken out of service. Diversion piping for off spec waste water is also being installed that will allow diversion to Tank 27 and Tank 28 when needed. This waste water will then be sent back through the NAPIS when appropriate.

Aeration lagoons 1 and 2 will be closed and EP-1 will also be closed in place. A new lined impoundment STP-1 (Sewage Treatment Pond) will be constructed and in operation by February 29, 2012. The new waste water treatment plant effluent will then flow to STP-1 and then to EP-2. The sanitary waste water will flow from the lift station to STP-1 which will contain aerators for treating the sanitary waste water. *See Appendix A-1 for location plan for New Waste Water Treatment Equipment.*

OCD approval of the Process Design Report for the Waste Water Treatment Plant Work Plan was received on May 25, 2010.

Section 10.0 Inspection, Maintenance, and Reporting

Refinery personnel and contractors routinely conduct inspection, maintenance, and repair of all processing units, systems, tanks, equipment, instrumentation, valves, piping, and other items necessary for the continued operation of the refinery. Some of these activities are conducted under the auspices of applicable regulations (e.g. 29 CFR 1910.110 – OSHA Process Safety Management Standard) and involve detailed record keeping and reporting.

Operational and Offsites group inspect mechanical equipment on a daily basis and perform operational startup and/or shutdown per SOPs for each unit or equipment as required. The 90-day Storage area is also inspected on a weekly basis as well as the evaporation ponds for freeboard levels, dike condition, flow, or any repairs required. (Copy attached in Appendix I). All inspections conducted by refinery personnel are performed daily, weekly, monthly, quarterly, semi-annually and on an annual basis.

Specific procedures that relate to sources of liquid effluent and solid waste are described as follows:

Process Waste Water/Collection System

Paving, curbing, catch basins and trenches collect process waste water which then flows through the sewer system to an equalization tank (T-35), API separator and then through the benzene strippers before being discharged into the aeration lagoons followed by a series of evaporation ponds. All storm water that falls within the process area collection system is considered process wastewater. The installation of the equalization tank (T-35) allowed the OAPIS to be taken out of service which occurred in early 2011.

Paving, curbing, catch basins, and trenches are routinely inspected for integrity by refinery *personnel (Copy of Monthly General Plant and Process Area is attached in Appendix I).* Previously, a video inspection technique was used to examine sewer system piping and components. As required by OCD, the refinery uses pressure testing to verify the integrity of sewer system components. Gallup Refinery conducts the pressure testing in increments of 20% per year over a five year period until the entire system has been checked. This test program uses the OCD methodology and criteria.

The New API separator (NAPIS) is emptied and inspected bi-annually. The refinery installed stainless steel liners in the NAPIS that serve as the primary containment. A non permeable coating was applied to the inside walls and floor of the concrete bays. *Transfer of waste water to the NAPI separators are performed per SOP0018 by the Offsites group as well as inspection of the API area. (Copy attached in Appendix I)*

The benzene strippers are inspected at least once per year. At least quarterly, packing is removed and cleaned. At this time, the stripper vessels are emptied and internally inspected. If needed, repairs are made before placing the strippers back in service.

Refinery operations personnel routinely conduct visual surveillance of process areas and monitor the integrity of concrete paving, curbing, catch basins, and trenches. Problems with containment systems are reported to the maintenance department for repair.

Storm Water

Activities at this site fall under Sector C of the MSGP (Chemical and Allied Manufacturing, and Refining). A Storm Water Pollution Prevention Plan (SWPP) has been prepared in accordance with good engineering practices and identifies potential sources of pollution that one would reasonably expect to affect the quality of storm water discharges from this site. Description of existing and planned Best Management Practices (BMPs) can be found in Section 2.8 of the SWPP (Storm Water Prevention Plan) which his kept on site. A copy can be made available upon request. *Visual assessment of storm water discharge is performed on a quarterly basis and/or immediately after a storm event or incident. (Copy attached in Appendix I). Inspections of Outfalls 1 and 2 are inspected on a monthly basis for integrity and to insure there is no release of potentially contaminated water from the outfall. (Copy attached in Appendix I). In the tank farm area all cells are inspected on a quarterly and*

monthly basis for berm, dike conditions, leaks, spills, and general housekeeping. (Copy attached in Appendix I).

Storage Tanks, Petroleum, and Chemical Storage Areas

Refinery operations, warehouse, safety, environmental, technical services, and laboratory field personnel routinely conduct visual surveillance of storage areas and monitor the integrity of containment and check for leakage or other problems per *SOP procedures for Tank Farm – Typical Rounds. (Copy attached in Appendix I). Tanks are gauged quarterly for verification by our Offsites Group (Copy attached in Appendix I).* All incidents and near misses are reported to the refinery management for follow up action and response. Additional information is included in the refinery ICP and SPCC. *Any tanks and/or vessels that require startup is performed per SOP 0028 Tank/Vessel Start UP procedures to safely return hydrocarbon tanks to service. (Copy attached in Appendix I).*

Ground Water Monitoring

Ground water monitoring is used to detect signs of leakage from the process areas and the surface impoundments. The observation, measurement, sampling frequency, and type of analysis are listed in Appendix C.

Ground water monitoring well (GWM-1) was installed down gradient of the aeration basins in order to monitor for the presence of shallow ground water and used to detect potential leakage from the aeration basins. The location of this well was determined in the field after mutual consultation by representatives of the refinery, OCD, and the drilling contractor. The well was drilled into a sand zone and contains water. In September 2005, two new dry wells were installed (GWM-2 and GWM-3). GWM-2 is located at the NW corner of aeration lagoon 2 and GWM-2 is located at the NW corner of evaporation pond 1. Both wells were drilled below the bottom of the lagoons and are monitored quarterly for the presence of water. If any water is found, the refinery will notify OCD and NMED within 24 hours.

The ground water monitoring wells (GWM-1, GWM-2, GWM-3) and the observation wells (OW-11, 12, 13, 14, 29, 30) and monitoring wells (MW-1, 4, 5) and shallow monitoring wells (SMW-2, 4) are routinely measured, sampled, and analyzed so as to provide the information necessary to detect an adverse ground water impact and allow for a timely and effective response.

On an annual basis, a grab sample of the inlet water to evaporation pond 2 is collected and analyzed for BOD, COD, VOC, GRO/DRO extended, and TDS.

On a semi- annual basis a grab sample of evaporation pond water 1 through 12B is collected and analyzed for general chemistry, VOC, SVOC, BOD, COD, E-Coli Bacteria, WQCC Metals Total and Dissolved.

New Wells Installed

Two new shallow ground water observation wells (OW-50 and OW-52) were installed in October 2009, north of OW-13 and down gradient of OW-29 and OW-30. These wells were installed per NMED HWB request dated 5/28/09 "*Requirement to Install Monitoring Wells*", to determine if any constituent has migrated north, northwest of the refinery and potentially offsite from an increase of MTBE levels in Wells OW-14, OW-29 and OW-30 and the presence of MTBE in OW-13 (0.0023 mg/L) below RRSL standards. OW-50 is screened at 48-63 feet and a total depth of 63 feet. OW-52 is screened at 64-79 feet and a total depth of 79 feet. These two wells were added to the annual update to the Refinery Wide Groundwater Monitoring Plan to be sampled on a quarterly basis for the following parameters: VOC, SVOC, DRO/GRO, RCRA 8 Metals, and General Chemistry. Copies of the well drilling logs are in Appendix D.

Waste Water from Pilot Travel Center and Truck Stop Facility

Pilot effluent samples are collected quarterly at aeration lagoon 1. Samples are analyzed for the following parameters. VOC/GRO/DRO extended, BOD, COD, WQCC Metals Total and Dissolved.

Process Wells

PW-4 was sampled on August 4, 2004, September 12, 2008 and July 28, 2010 and every three years thereafter beginning with 2007. PW-2 was sampled on December 9, 2004, September 12, 2008 and next scheduled sampling is in the year 2011. PW-3 was sampled on October 17, 2006, August 21, 2008 and next scheduled sampling is in the year 2011. These production/process wells are scheduled for sampling every three years.

Perimeter Inspections

In 2004 Gallup Refinery commenced perimeter searches of the refinery property on a bi-monthly basis. The inspection focuses on hydrocarbon staining or any release that could result in contamination leaving the property boundary. The refinery has prepared an inspection check list that is completed and signed by the environmental employee conducting the inspection. Completed inspection sheets are maintained on site. *Copy of Inspection Form is attached in Appendix I.*

Recovery Wells

Separate Phase Hydrocarbons (SPH) floating on shallow ground water has been found at the north-east end of the facility and a system of recovery wells were installed in 1995 and 1997. The recovery wells are designated as RW-1, RW-2, RW-5 and RW-6. All of the recovery wells are gauged for depth to water (DTW) and depth to product (DTP) measurements on a quarterly basis. RW-1 free product is pumped out on a quarterly basis using a bladder type pump. Recovery through hand-bailing is still on-going for RW-5 and RW-6 which have

shown a steady decline in free product levels. Copy of quarterly gauging is attached in Appendix I.

Temporary Land Farms (Northeast and Central OCD Land Farms)

The refinery uses an OCD-permitted land farm (Central Land Farm) to treat non-hazardous oily residue that is intermittently generated within the refinery. The OCD-permitted land farm is not currently receiving additional waste material and will remain as such until existing hydrocarbon constituents are more fully biodegraded.

There is also a temporary OCD Land Farm known as NE Land Farm. Gallup is currently working with OCD to close this land farm by time of permit renewal. Both of these land farms are tilled/disked bi-monthly and sampled on a semi-annual basis. *(Copy of bi-monthly disk/till report is attached in Appendix I).*

Section 11.0 Spill/Leak Prevention and Reporting Procedures

The Gallup Refinery has developed, implemented, and maintains a Contingency Plan (CP). Although this facility is designed, constructed, maintained and operated in a manner that minimizes the possibility for emergency incidents such as fire, explosions and any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water, this (CP) is designed to minimize hazards to human health and the environment in the unlikely event of such incidents. The (CP) is designed to satisfy the requirements of all applicable New Mexico Hazardous Waste Regulations (NMAC20.4.1.600), Federal Hazardous Waste Regulations (40 CFR 262.34(a)(4) and 40 CFR 265.50-265.56). *Comply with requirements of NMOCD Rule 116 and WQCC Section 1203 for spill reporting utilizing form C-141 as required.* A copy of the (CP) is included with the OCD Permit Renewal Application.

The Gallup refinery also maintains the following plans which can be made available to OCD upon request:

- EPA Spill Prevention, Control, & Countermeasures Plan (40 CFR Part 112.7)
- EPA Facility Response Plan (40 CFR Parts 112.20 and 112.21)
- EPA Risk Management Plan (40 CFR Part 68)
- EPA Storm Water Pollution Prevention Plan (SWPPP)

Section 12.0 Site Characteristics

Built in the 1950's, the Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown, New Mexico, 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope of the continental divide. The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Pilot Travel Center (formerly Giant) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than 7 inches per year.

Local topography consists of an inclined down-slope from high ground in the southeast to a lowland fluvial plain in the northwest. The highest point on refinery property is located at the southeast corner boundary (elevation approximately 7,040 feet) and the lowest point is

located at the northwest corner boundary (elevation approximately 6,860 feet). The refinery processing facility is located on a flat man-made terrace at an elevation of approximately 6,950 feet.

Regional surface water features include the man-made evaporation ponds, aeration basins located within the refinery and a number of small ponds located east and south of the refinery. The site is located in the Rio Puerco valley, north of the Zuni Uplift with overland flows directed northward to the tributaries of the Rio Puerco. The Rio Puerco continues to the east to the confluence with the Rio Grande. The South Fork of the Puerco River is intermittent and retains flow only during and immediately following precipitation events.

The 810 acre refinery property site is located on a layered geologic formation. The shallow subsurface soils consist of fluvial and alluvial deposits comprised of clay and silt with minor inter-bedded sand layers. Very low permeability bedrock (e.g., claystones and siltstones) underlie the surface soils and effectively form an aquitard. The Chinle Formation, which is Upper Triassic, crops out over a large area of the southern margin of the San Juan Basin. The uppermost recognized local member is the Petrified Forest and the Sonsela Sandstone Bed is the uppermost recognized regional aquifer. Aquifer test of the Sonsela Bed northeast of Prewitt indicated a transmissivity of greater than 100 ft²/day(Stone and others, 1983). The Sonsela Sandstone's highest point occurs southeast of the site and slopes downward to the northwest as it passes under the refinery. The Sonsela Sandstone forms a water-bearing reservoir with artesian conditions throughout the central and western portions of the refinery property.

The diverse properties and complex irregular stratigraphy of the surface soils across the site, cause a wide range of hydraulic conductivity ranging from less than 10^{-2} cm/sec for gravely sand immediately overlying the Chinle Formation to 10^{-8} cm/sec in the clay soils located near the surface. Generally, shallow ground water at the refinery follows the upper contact of the Chinle Formation with prevailing flow from the southeast to the northeast. Figure 4 depicts the regional surface water flows are in a westerly direction. Figure 5 depicts surface water bodies and flow lines.

Historical analyses of ground water collected at GWM-1 and GWM-2 (located down gradient of the aeration basin) indicated low concentrations of BTEX and methyl tertiary butyl ether (MTBE). Chlorides levels ranged from 3700 mg/L in 2006 to 1300 mg/L in 2010. In the third and fourth quarter of 2010 GWM-2 and GWM-3 were found to have water. Analyses indicated non-detect for BTEX and Chloride levels between 1400 mg/L and 2000 mg/L. Sulfates also ranged from 700 mg/L to 1500 mg/L. The occurrence of shallow groundwater in the area is sporadic and temporal. The Chinle Slope Wash is a water bearing unit that lies above the Sonsela Aquifer. There were no statistically significant increases in ground water in the Chinle Slope Wash. There are a total of 20 (monitoring, observation, and Boundary) wells in the Chinle Formation ranging in depths from 14 to 80 feet.

The Sonsela Sandstone bed lies within and parallels the dip of the Chinle Formation. As such its high point is located southeast of the refinery and it slopes downward to the northwest as it passes under the refinery. At the uppermost section of the Sonsela, analyses

for observation wells 12 and 13 indicate non-detect for BTEX from 2006 to 2010. Analyses for the down gradient wells (MW-1, MW-2 and MW-5) indicate that Chloride and pH were the only statistically significant increases in ground water from 2006 to 2010. Ground water sampling near the evaporation ponds detected no VOCs or SVOCs in ground water beneath the evaporation ponds. There are a total of 12 (monitoring, observation and boundary) wells in this stratigraphic unit ranging in depths from 90 feet to 151 feet. See Appendix E and F for stratigraphic and potentiometric map.

Items Specifically Requested in the OCD Guidance Document

Section A – Hydrologic/Geologic Information

1. *Provide the name, description, and location of any bodies of water, streams, or other water courses; and ground water discharge sites within one mile of the outside perimeter of the facility. For water wells, locate wells within one-quarter mile of the outside perimeter of the facility and specify use of water.*

   The following water bodies are located within one mile of the outside perimeter of the refinery

   Aeration Basins

   The Aeration basins are shown on the plant site drawing in Appendix A.

   Evaporation Ponds

   The evaporation ponds are shown on the plant site drawing in Appendix A.

   Storm Water Retention Areas

   The storm water retention areas are shown on the plant site drawing in Appendix A.

   The South Fork of the Rio Puerco and is Tributaries

   The south fork of the Rio Puerco and its tributary arroyos are shown on the Regional Scale Map, Figure 4.

   Jon Myer's Pond (NE ¼, Section 34, T15N, R15W)

   Jon Myer's Pond is located approximately one mile east of the plant site and is a source of water for cattle. The pond is shown on the Localized Scale Map, Figure 5.

   Unnamed Ponds (NW ¼, Section 4, T14N, R15W)

   These unnamed ponds are located approximately ¼ mile south of Interstate40.

Unnamed Artesian Surface Seep (south of Evaporation Pond 9)

A small marshy area is located south of Evaporation Pond 9. This marsh results from a surface seep of artesian water from the Sonsela Sandstone Bed.

2. *Provide the depth to and total dissolved solids concentrations of the ground water most likely to be affected by any discharge. Include the source of information and how it was determined. Provide a recent water quality analysis of the ground water, if available, including the name of analyzing laboratory sample date.*

In this permit application, shallow ground water is defined to be ground water that lies above the Chinle Formation aquiclude. Shallow ground water is the ground water most likely to be affected by any discharge at the refinery.

Shallow ground water located under the refinery is irregular, intermittent, and frequently discontinuous. As such, it represents an unreliable and unpredictable potential water source, and consequently is not extracted for beneficial use in this region.

Due to irregular surface topography and the inclined nature of the Chinle Formation, depth to ground water is highly variable in the vicinity of the refinery property. Ground water may be encountered as little as 1 foot below ground surface in the marsh area south of Evaporation Pond 9 and as much as 180 feet below ground surface at the northwest corner of the refinery.

Sampling and analysis of shallow ground water has been ongoing at the refinery since the mid 1980's and this data has been supplied to OCD in the Annual Ground Water Reports.

3. *Provide the following information and attach or reference source information.*

a. *Soil Type(s)*

Soil types vary from fine sands at the southeast boundary of the refinery to highly plastic clays located at the northwestern boundary of the refinery.

This information was obtained from the Soil Conservation Service McKinley County Soil Map

b. *Name of aquifer(s)*

The uppermost useable aquifer is the Sonsela Sandstone Bed located within the Petrified Forest Member of the Chinle Formation. Mr. Bill Kingsley, P.E., supplied this information.

c. *Composition of aquifer material.*

The Sonsela Sandstone Bed is composed of sandstone. The information is from numerous drilling logs. Copies of these logs are included in Appendix D.

d. Depth to rock at base of alluvium

Bedrock depth ranges from exposed to over 85 feet below ground surface at the northwest corner boundary.

4. *Provide information on*:

a. The flooding potential at the discharge site with respect to major precipitation and/or run-off events.

The alluvial flat lands located at the north, northwestern, and western sections of the refinery are located within a flood plain as shown on the FEMA maps.

b. Flood protection measures.

The evaporation ponds are protected against flood impacts by the minimum 8 foot high earthen berms which form the containment of the ponds.

Section B – Additional Information

1. Provide stratigraphic information including formation and member names, thickness, lithologies, lateral extent, etc.

A stratigraphic profile diagram of the refinery is provided in Appendix E.

2. Provide generalized maps and cross-section.

A plant site drawing is provided in Appendix A and a stratigraphic profile diagram of the refinery site is provided in Appendix E.

3. Provide potentiometric maps for aquifers potentially affected.

This map is provided in Appendix F.

4. Provide porosity, hydraulic conductivity, storativity and other hydrologic parameters of the aquifer.

Porosity	10-20 Percent
Conductivity	0.01 – 0.05 cm/s

5. Provide specific information on the water quality of the aquifer.

Sampling and analysis of shallow ground water has been on going at the refinery since the mid 1980's and this data has been supplied to OCD in the Annual Ground Water Reports.

6. *Provide information on expected alteration of contaminants due to sorption, precipitation or chemical reaction in the unsaturated zone, and expected reactions and/or dilution in the aquifer.*

   The predominant type of contaminant at the refinery is petroleum hydrocarbons. Petroleum hydrocarbons are easily adsorbed onto soil particles and tend to remain in the interstitial voids until washed out by precipitation or consumed by micro-organisms. Petroleum hydrocarbons do not tend to react with soil particles.

Section 13.0 Other Compliance Information

The Gallup Refinery was constructed in 1957 and has been in near continuous operation since that time. Over the years, various releases of petroleum-based products and other materials have occurred, largely as a result of minor spills, equipment leaks, waste treatment activities, and from former impoundments and disposal sites. As a result, surface soil, subsurface soil, and ground water has been impacted at various locations and over various time periods spanning the past 46 years.

Some of these sources of prior contamination are now fully remediated, closed and no longer represent a source of release to the environment. Examples of this include the following Solid Waste Management Units (SWMUs).

- SWMU #3 Empty Container Storage Area
- SWMU #4 Old Burn Pit
- SWMU #5 Landfill Area

- SWMU #9 and #14 Drainage Ditch Near the Inactive Land Farm
- SWMU #10 Sludge Pits
- SWMU #11 Secondary Oil Skimmer
- SWMU #13 Drainage Ditch Between API Evaporation Ponds and Neutralization Tank Evaporation Ponds (a.k.a. Drainage Ditch between API Evaporation Ponds and the North Series and South Series of Ponds)

Other sources of prior contamination are still in the process of final closure and no longer represent a source of release to the environment. An example of this is the RCRA Land Treatment Unit. Gallup Refinery is working with NMED to complete the closure of this site and will conduct monitoring for several years under a post-closure care plan.

Some sources of prior contamination are still in the process of investigation or remediation, and consequently may represent a continuing source of release. An example of this is SWMU #6, Tank Farm – Leaded Gasoline Tanks. Although the original source of release (a hole in a storage tank bottom) has been repaired, residual hydrocarbons may still be present in the soil and ground water located under the Main Tank Farm. A hydrocarbon recovery system has been installed and is continuing to operate. Another example is SWMU #8, Railroad Rack Lagoon. This former retention pond was taken out of service in the 1980's and no longer receives waste water from the railcar loading rack. Clean up of the lagoon was performed in late 2004 and 2005 and filled with clean soil. A Remedy Completion Report was submitted to NMED in February 2006. NMED requested that an additional study be conducted in the overflow ditch and fan-out area. Trihydro Corporation performed an investigation of the overflow ditch and fan-out area in October 2006. Soil removal took place from 2006 through 2010. On December 17, 2010, an "*Approval with Modifications Railroad Rack Lagoon Overflow Ditch and Fan-Out Area*" was received from NMED HWB allowing back fill of this area which was completed in January 2011. On January 26, 2011, an "*Approval With Modifications Remedy Completion Report Railroad Rack Lagoon (SWMU No. 8) Revised Report*" , was received from NMED HWB notifying Western Refining that the site currently qualifies for corrective action complete with controls status, and Western may petition NMED for a corrective action complete determination for SWMU 8.

Other SWMUs were previously investigated to determine if they might be a potential source of release to the environment. This includes the Contact Waste Water Collection System (Process Sewer System), the Aeration Basins, and the Evaporation Ponds. Each of these units is an active and vital component of the refinery's waste water treatment system.

An Evaporation Pond Closure Plan was prepared by Gannett Fleming West, Inc., on behalf of Western Refining in December 2007. The Evaporation Ponds were identified as a Solid Waste Management Unit (SWMU No. 2) under the RCRA Hazardous Waste Facility Permit No. NMD000333211-1. The recommendation in the RCRA Facility Investigation (RFI) was for No Further Action (NFA) at this SWMU so no site remediation has been required for these evaporation ponds. The Closure plan calls for closing 11 ponds; Ponds 8 and 9 will require some remediation of the pond bottoms because of chloride depositions at time of closure. A copy of the closure plan is attached as Appendix H.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, April 29, 2011 2:49 PM
To: 'Riege, Ed'
Cc: Johnson, Cheryl; VanHorn, Kristen, NMENV; Tsinnajinnie, Leona, NMENV; VonGonten, Glenn, EMNRD
Subject: RE: Gallup Refinery (GW-032) Disharge Permit Application "Administratively Incomplete" Determination
Attachments: DP GW-32.doc

Ed:

Good afternoon. I just left you a message regarding the recent discharge permit application for renewal submitted to the OCD. I was hoping to discuss the application with you today. You can give me a call on Tuesday to discuss the application and we have a conference call setup for next Friday. Since I also made some revisions to the draft discharge permit that we will be speaking about next Friday, I have attached the updated version for your consideration to this message.

The OCD deems the Western's renewal application to be "Administratively Incomplete" because it does not adequately address some of the application provisions. Some concerns about the application stem from recent waste water treatment system developments based on the EPA CO that do not appear to be adequately reflected in the application for renewal, i.e., Sanitary Treatment Pond 1- STP-1 (double-lined w/ aeration and leak detection system with diagram that will replace Evaporation Pond 1 and Aeration Lagoons 1 and 2. There is no diagram and the application may have a sentence that briefly mentions it.

The OCD's comments and/or requested information from the provisions of the application form are as follows:

5) The Appendix "A" Facility Diagram does not adequately display tanks or the tank numbering system to cross reference tanks with text in the application on the diagram. Perhaps this map at varying scales could serve to satisfy all of the cross-reference from the application to this diagram, i.e., process locations, drum storage areas, tanks with discernable numbering system, etc.? Page 13 No. 9 indicates that drum storage areas are depicted in the Appendix "A" diagram, but the scale is apparently inadequate to discern the locations. Also, Item No. 7 on this same page should include after "Disposal, and or Treatment", since there are also landfarms for treatment at the facility. .

6) Page 14 Section 6 and a reference to a tank diagram of sufficient scale to show tank numbers that correspond to chemicals stored in tanks would be useful here. The tank diagram that was submitted for the "Alternate Tank Testing Schedule" may work here for the reader to cross-reference tank numbers with corresponding chemicals and tank specifications?

9) The description of the proposed modification of the "treatment systems" in this section needs to be updated. Perhaps some existing diagrams from the approved waste water treatment system under the EPA CO would address this with summary of the changes being made to the existing system? A different scale Appendix "A" diagram displaying the modification would be useful here. Page 11 refers to the existing aeration lagoons without mention of the Sanitary Treatment Pond (STP-1) and the replacement of Evaporation Pond 1. A reference to a figure displaying the location of the new waste water treatment system should be reference here. Section 9 and Page 29 would also be addressed by the diagram requested above and in the section that actually references the STP-1. There is also no mention of the NPDES permit application and potential discharge to "Waters of the State" on Page 11 under Storm Water Handling Management System. The NPDES write-up on Page 15 would also help to address Section 7 and effluent. Page 12 No. 5 indicates that sanitary sewage is treated at the lift station and release at AL1. A reference to Appendix A diagram for septic fields, but this should include a discussion on STP-1 and a reference to a diagram of sufficient scale to discern the text discussion.

10) There was no routine inspection and maintenance plan corresponding to the discharge permit submitted or incorporated into this section. Perhaps the templates used for operation and maintenance of refinery units and any other relevant to this provision developed based on the discharge permit requirements could be submitted to address this provision? Section 10 on Page 30 is the section that the above pertains to and most of the text in this section does not appear to address inspection and maintenance..

11) There is no inclusion of the applicable Water Quality Control Commission (WQCC) and OCD oil and gas regulations from the discharge permit included in this section nor any reference to the C-141 notification form and requirements for reporting spills or releases with corrective actions. Section 11 on Page 34 is the section that the above should be included.

12) The depth to and quality of ground water was not adequately discussed in this section. For example, there appear to be 2 to 3 different aquifer systems with associated wells to understand the contaminant hydrogeology beneath the facility, but there is no discussion on the general chemistry in them or piezometric and potentiometric heads from the aquifer systems. Perhaps upgradient background water quality information and depth to water in these systems could be provided to address this section? Section 12 on Page 35 is the section that the above should be incorporated into.

13) The facility closure plan was not included in the application. Instead, there is RCRA SWMU information, but nothing that pertains to the existing OCD Dischage Permit, i.e, pond closure, etc. A study of WQCC § 20.6.2 et seq. NMAC and the discharge permit may help with this. Sectoin 13 on Page 40 is the section where the closure plan information requested above should apply.

Other requested items:

Appendix "E" Stratigraphy Map is missing and needs to be submitted from the report.

Appendix "G" Contingency Plan (CP) must meet WQCC OCD Discharge Permit requirements at a minimum. For example, on Page 39 there is questionable language on "oil contaminated debris", "sand and gravel" and "oil absorbent materials" that does not seem to be in compliance with WQCC Regulations. Perhaps a disclaimer in the CP that all actions herein must comply with the applicable state, federal and local regulations shall also be addressed would work in the CP? The table at the back of CP with a numbered tank diagram is required here.

The OCD recommends that Western simply submit a response with any attachments, i.e., diagrams, that will address the OCD's comments and/or request for more information to address the discharge plan application for renewal. Please contact me if you have questions.

Please find attached the OCD's current DP Renewal Draft based on the above and that we may discuss next Friday during our conference call. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Thursday, April 14, 2011 8:37 AM
To: Chavez, Carl J, EMNRD
Cc: Johnson, Cheryl
Subject: RE: Gallup Refinery (GW-032) Public Notice Info.

Thanks Carl, we will look over the attachments you sent. Cheryl and I are available to come to Santa Fe on Tuesday April 26th or we can do it by telephone. The attached PDF contains the August 2010 CO schedule. Gallup has met Milestones 1 through 5 and is on track to meet 6 through 9, so no deadlines have been missed in this CAFO. Recent changes are discussed on page 10 and 30 of the application and Proposed Changes in Section 9 on page 29.

Thanks,
Ed

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, April 14, 2011 7:22 AM
To: Riege, Ed
Subject: Gallup Refinery (GW-032) Public Notice Info.

Ed:

Good morning. I received the $100 filing fee on 4/12/2011 and am moving forward to review the application for renewal. Please find attached the public notice requirements if the OCD determines that your renewal application is "Administratively Complete."

I am planning to issue public notice and a draft permit on 4/28 or 29 on the OCD Internet. As you know we usually review the draft permit together, but OCD is still under travel restriction. Please let me know if you can come to SF for a meeting on the draft permit before 4/28. Another way would be to send you a draft for your review and a telephone conference call or you could send an e-mail with comments or recommendations, etc. It would help me to identify issues or deadlines that were missed due to the CO with the EPA, etc. where OCD basically deferred to those requirements to meet the requirements of the discharge permit where applicable. Please let me know.

Please contact me if you have questions Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

- 7220 S. St Francis Dr. Wendell Chino Bldg

Please note that Section 3104. of the regulations requires that "when a permit has been approved, discharges must be consistent with the terms and conditions of the permit." Pursuant to Section 3107.C.,

Giant Refining Company is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.H.4., this approval is for a period of five years. **This approval will expire August 01, 2006** and an application for renewal should be submitted in ample time before that date. Pursuant to Section 3106.F. of the regulations, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved.

The discharge permit application for the Giant Refining Company, Ciniza Refinery is subject to the WQCC Regulation 3114. Every billable facility submitting a discharge permit will be assessed a fee equal to the filing fee of $100.00 plus flat fee of $ 8400.00 for Oil Refineries. The OCD has received the $100.00 filing fee and $8400.00 flat fee.

If you have any questions, please contact Wayne Price of my staff at (505-476-3487) or E-mail WPRICE@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/lwp
Attachments-1
xc: OCD Aztec Office

Recvd. 4/12/2011
OSC OAD

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. _____ dated 4/6/11

or cash received on _____ in the amount of $ 100 00

from Western Refining

for GW-32

Submitted by: Lawrence Rocco Date: 4/12/11

Submitted to ASD by: Lawrence Rocco Date: 4/12/11

Received in ASD by: _____ Date: _____

Filing Fee ✓ New Facility _____ Renewal _____

Modification _____ Other _____

Organization Code 521.07 Applicable FY 2010

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, April 07, 2011 9:53 AM
To: 'Riege, Ed'
Cc: VonGonten, Glenn, EMNRD
Subject: Western Refining Southwest, Inc.- Gallup Refinery (GW-032) Discharge Permit Renewal Application

Mr. Riege:

Good morning. The OCD is writing to inform you that it has received your application to renew the discharge permit today. The OCD will look for the $100 filing fee under separate mailing.

I will check with our Acting Supervisor to see if the application and draft permit, public notice, etc. process may proceed forward at this refinery or whether there will be any delays.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Western Refining
GALLUP

WNR LISTED NYSE

RECEIVED OCD

2011 APR -6 A 12: 55

Certified Mail #7010 0290 0002 7735 4780

April 5, 2011

Mr. Carl Chavez
Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505

Re: OCD Discharge Permit GW-032 Permit Renewal Application

Dear Mr. Chavez:

Enclosed are the original and one copy of the application for renewal for the Western Refining Gallup Refinery Discharge Permit GW-032. The filing fee of $100 will be sent under separate cover directly from Western Refining's Corporate Accounting group.

Bill Kingsley of Peregrine GeoConnect is updating our stratigraphic and potentiometric maps with current data and also updating our plant site drawing with the additions of the pilot lift station and tanks 35, 28 and 29. This information will be forwarded under separate cover as soon as we are in receipt. The updated maps affected are:

- Appendix A – Plant Site Drawing
- Appendix E – Stratigraphy Map
- Appendix F – Potentiometric Map

Please contact me at (505) 722-0217 if you have any comments or questions regarding this submittal.

Sincerely,

Ed Riege
Environmental Manager

C: Kristen Van Horn, NMED
Mark B. Turri, WNR
Cheryl Johnson, WNR

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification

1. Type: Petroleum Refinery

2. Operator: Western Refining Southwest, Gallup Refinery

   Address Mail: Route 3 Box 7, Gallup, NM 87301; Shipping: Interstate 40, Exit 39, Jamestown, NM 87347
   Contact Person: Mark B. Turri Phone: (505) 722 – 3833; E-Mail Address: mark.turri@wnr.com

3. Location: SE 1/4 NE 1/4 Section 28 Township 15N, Range 15W
   Submit large scale topographic map showing exact location.

4. Attach the name, telephone number and address of the landowner of the facility site.

5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.

6. Attach a description of all materials stored or used at the facility.

7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.

8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.

10. Attach a routine inspection and maintenance plan to ensure permit compliance.

11. Attach a contingency plan for reporting and clean-up of spills or releases.

12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.

13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

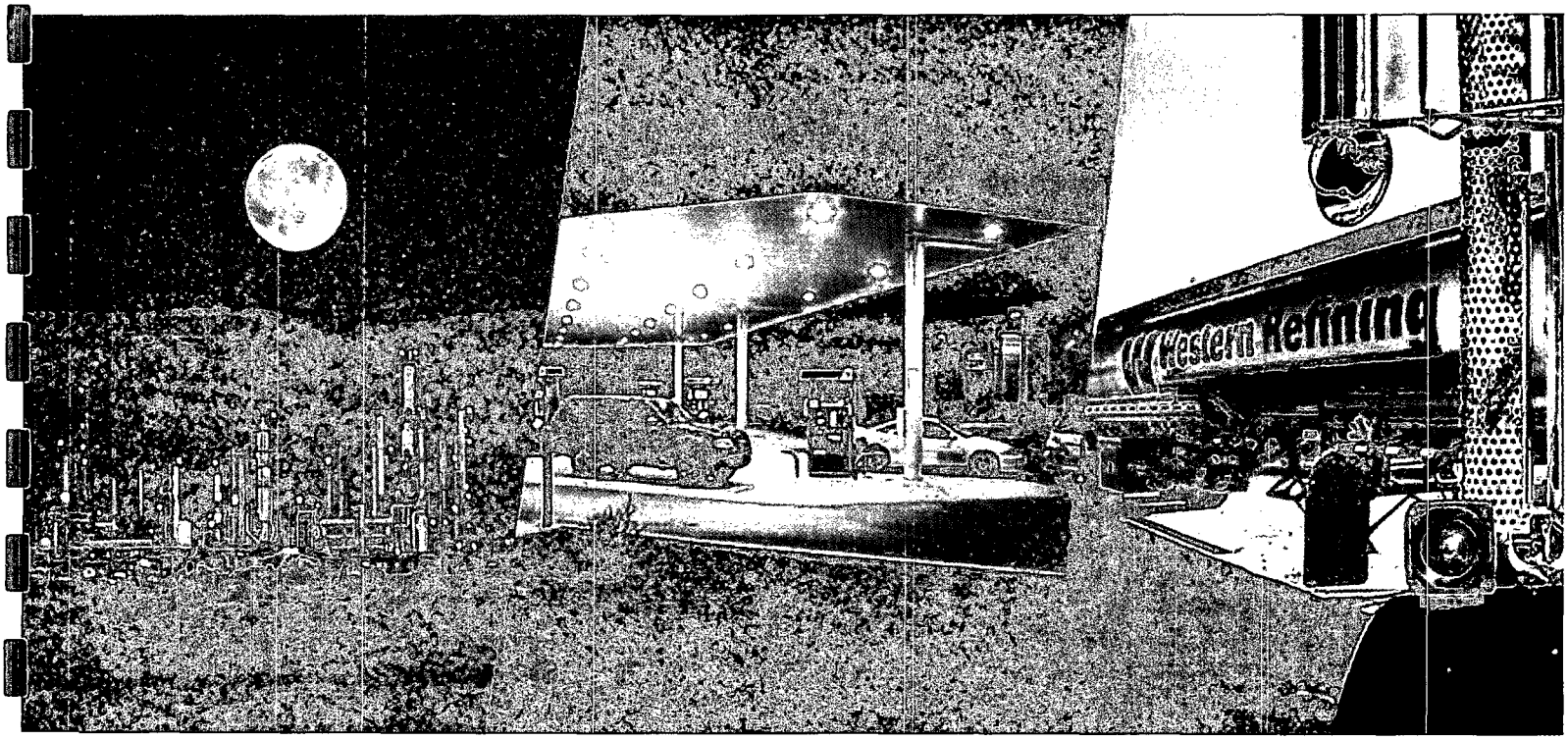
14. CERTIFICATION I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Mark B. Turri Title: General Manager

Signature: Mark B Turri Date: 4/5/11

OCD Discharge Plan Renewal Application
Permit No. GW-032

Submitted: April 5, 2011



Submitted to: State of New Mexico / Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Submitted by: Western Refining Company
Route 3 Box 7
Gallup, New Mexico 87301

LIST OF ACRONYMS

AL	Aeration Lagoons
BLM	Bureau of Land Management
BMPs	Best Management Practices
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BW	Boundary Well
COD	Chemical Oxygen Demand
DAF	Dissolved Air Flotation
DRO	Diesel Range Organics
EP	Evaporation Ponds
EPA	Environmental Protection Agency
GPM	Gallons per minute
GRO	Gasoline Range Organics
GWM	Water Monitoring Well
HWB	Hazardous Waste Bureau
MTBE	Methyl Tert Butyl Ether
MW	Monitoring Well
NAPIS	New American Petroleum Institute Separator
NMED	New Mexico Environment Department
OCD	Oil Conservation Division
OW	Observation Well
PPM	Parts per million
PW	Production/Process Well
RO	Reverse Osmosis
RW	Recovery Well
SPH	Separate Phase Hydrocarbons
SPCC	Spill Prevention, Containment & Countermeasures
STP	Sewage Treatment Pond
SVOC	Semi-volatile Organic Compounds
SWPPP	Storm Water Pollution Prevention Plan
VOC	Volatile Organic Compounds
WWTP	Waste Water Treatment Plant

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Section 1.0 Type of Operation

The Gallup Refinery is a crude oil refining facility.

The Standard Industrial Classification (SIC) code is 2911 and the NAIC is 32411.

The refinery receives and processes crude oil and other feedstocks producing various finished products; including propane, butane, naphtha, unleaded gasoline, diesel, kerosene and residual fuel.

Section 2.0 Name of Operator or Legally Responsible Party or Representative

Owner: Western Refining, Inc., (Parent Corporation)
123 W. Mills Avenue
El Paso, TX 79901

Operator: Western Refining Southwest, Inc. (Postal address)
Route 3, Box 7
Gallup, New Mexico 87301

Western Refining Southwest, Inc. (Physical address)
I-40, Exit 39
Jamestown, New Mexico 87347

Key Contact: Mark B. Turri, General Manager

Telephone: (505) 722-3833

E-mail: mark.turri@wnr.com

Section 3.0 Location of the Discharge Plan Facility

The Gallup Refinery is approximately 17 miles east-southeast of the City of Gallup in McKinley County, located within the west-central region of the State of New Mexico. It is more specifically located immediately north of Interstate 40 at Exit 39, and approximately one mile northeast of the Pilot (Formerly Giant) Travel Plaza, see Figure 1.

The refinery is situated on an 810 acre irregular shaped tract of land that is substantially located within the lower one quarter of Section 28 and throughout Section 33 of Township 15 North, Range 15 West of the New Mexico Prime Meridian. A small component of the property lies within the northeastern one quarter of Section 4 of Township 14 North, Range 15 West. (Latitude 35°29'30" and longitude 108°24'40"), see Figure 2. An aerial map of the refinery is also provided as Figure 3.

Section 4.0 Landowners

Prior to 1957, the land area encompassing the Gallup Refinery was federal land managed by the Bureau of Land Management (BLM). In 1957, the El Paso Natural Gas Company obtained the land from the BLM and constructed the refinery near a former depot location along the adjacent railroad known locally as Ciniza. The refinery was purchased and operated by Shell Oil Company until 1982. The refinery was purchased in 1982 and operated by Giant Industries Arizona, Incorporated until May 2007. In May 2007, Western Refining, Inc. acquired all of Giant's stock from Giant (but not the assets) and currently operates the refinery as Western Refining Southwest, Inc. Western Refining Southwest, Inc. refers to the refinery as the *Gallup Refinery*.

Section 5.0 Facility Description

Built in the 1950's, the Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown, New Mexico, 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope of the continental divide.

The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Pilot Travel Center (formerly Giant) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than 7 inches per year.

The refinery primarily receives crude oil via two 6 inch diameter pipelines; two pipelines from the Four Corners Area enter the refinery property from the north. In addition, the refinery also receives natural gasoline feed stocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Conoco gas plant. Crude oil and other products also arrive at the site via railroad cars. These feed stocks are then stored in tanks until refined into products.

The refinery incorporates various processing units that refine crude oil and natural gasoline into finished products. These units are briefly described as follows.

- The Crude Distillation Unit separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residuals.
- The Fluidized Catalytic Cracking Unit (FCCU) dissociates long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.
- The Alkylation Unit combines specific types of hydrocarbon molecules into a high octane gasoline blending component.
- The Reforming Unit breaks up and reforms low octane naphtha molecules to form high octane naphtha.
- The Hydro treating Unit removes undesirable sulfur and nitrogen compounds from intermediate feed stocks, and also saturates the feeds tocks with hydrogen to make diesel fuel.
- Additional Treater Units later also remove impurities from various intermediate and blending feed stocks to produce finished products that comply with sales specifications.
- The Isomerization Unit converts low octane hydrocarbon molecules into high octane molecules.

- A set of Acid Gas Treating and Sulfur Recovery Units convert and recover various sulfur compounds from other processing units and then produce either Ammonium Thiosulfate or a solid elemental sulfur byproduct.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel. In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feed stocks, finished products, chemicals, and water. These tanks are all located above ground and range in size from 80,000 barrels to less than 1,000 barrels.

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units. A railroad spur track and a railcar loading rack are used to transfer feed stocks and products from refinery storage tanks into and out of railcars. Several tank truck loading racks are used at the refinery to load out finished products and also may receive crude oil, other feed stocks, additives, and chemicals. Gasoline and diesel is currently delivered to the Pilot Center via tanker truck. An underground diesel pipeline exists between the refinery and Pilot and Western is working with OCD and PSTB to place this line back into service.

A firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vacuum truck. The vacuum truck pumps the oily water into a process sewer leading to the New API Separator (NAPIS).

Process Waste Water Treatment System

The process waste water system is a network of curbing, paving, catch basins, and underground piping that collects waste water effluent from various processing areas within the refinery and then conveys this waste water to Tank 35(T-35) and then to the NAPIS.

T-35 is an equalization tank which handles large process and storm water flows allowing the flow to the NAPIS to be controlled during process and storm water events. The equalization tank is also used to store the waste water for a couple of days if problems are encountered with the downstream equipment, i.e., NAPIS and the benzene strippers and in the future the new DAF and MPPE units.

The NAPIS is a two compartment oil water separator. Oil is separated from water based on the principle that, given a quiet surface, oil will float to the water surface where it can be skimmed off. The skimmed slop oil is passed to a collection chamber where it is pumped back into the refinery process. The clarified water is piped to three benzene strippers where benzene is removed. The stripped water flows into the first aeration lagoon. Sludge sinks to the bottom of the NAPIS which is periodically vacuumed out by a vacuum truck and

disposed of as hazardous waste at an approved landfill or recycled and reused in refineries that have this allowable exemption under RCRA.

At the benzene strippers, ambient air is blown upwards through the falling cascade of clarified waste water as it passes through distillation column packing. Countercurrent desorption of benzene from the water occurs due to the high volume of air passing over the relatively large surface area provided by the packing. The desorbed benzene is absorbed into the air stream and vented to the atmosphere. Effluent from the stripper columns gravity flows through piping into the first aeration lagoon.

At the aeration basins, the treated waste water is mixed with air in order to oxidize any remaining organic constituents and increase the dissolved oxygen concentration available in the water for growth of bacteria and other microbial organisms. The microbes degrade most of the hydrocarbons into carbon dioxide and water. Three 15-hp mechanical aerators provide aeration in the first aeration lagoon with two 15-hp aerators providing aeration in the second lagoon. Effluent from the second aeration lagoon flows onward into the first of several evaporation ponds of various sizes.

At the evaporation ponds, waste water is converted into vapor via solar and mechanical wind-effect evaporation. No waste water is discharged from the refinery to surface waters of the state because all of the waste water evaporates.

Storm Water Handling Management System

The storm water system is a network of valves, gates, berms, embankments, culverts, trenches, ditches, natural arroyos, and retention ponds that collect, convey, control, treat, and release storm water that falls within or passes through refinery property. Storm water that falls within the processing areas is considered equivalent to process wastewater and is sent through the NAPIS, benzene strippers and waste water treatment system for retention in evaporation ponds. Storm water discharge from the refinery is very infrequent due to the arid desert-like nature of the surrounding geographical area.

The Gallup Refinery currently operates under the Multi-Sector General Permit 2008 (MSGP-2008). Gallup Refinery submitted a new NOI for coverage under the new MSGP. The refinery maintains a storm water pollution prevention plan (SWPPP) that includes Best Management Practices (BMPs) for effective storm water pollution prevention. The refinery has constructed several berms in various areas and improved outfalls (installed barrier dams equipped with gate valves) to minimize the possibility of potentially impacted runoff leaving the refinery property.

Items Specifically Requested in the OCD Guidance Document

1. *Location of Fences:*

   The refinery incorporates an outer perimeter fence that substantially consists of barbed wire and posts, and roughly corresponds to the property boundaries. In addition,

interior zones of 8 foot high chain link fencing are installed around the process areas, warehouse yards, storage pads, loading racks, and other sensitive areas. The locations of these fence lines are shown on the plant site drawing in Appendix A.

2. *Location of Pits:*

The refinery no longer uses earthen pits for waste accumulation. The locations of former pits are shown on the plant site drawing in Appendix A. All of these former pits have been excavated, remediated, and backfilled with clean soil.

3. *Location of Berms:*

The refinery uses earthen berms to form secondary containment basis for tankage and also for storm water flow control and outlying retention basins. The locations of these berms are shown on the plant site drawing in Appendix A.

4. *Location of Tanks:*

The refinery uses above ground tanks for storage at various locations within the refinery. The locations of these tanks are shown on the plant site drawing in Appendix A. Large grouping of tanks are identified as named tank farms. This includes the following:

- Main Tank Farm
- Hot Oil Tank Farm
- Tank Truck Loading Rack Tankage Area
- High Pressure Storage Bullets Area
- Hydrogen Storage Bullets Area

5. *Location of Discharges:*

Treated process waste water is evaporated at the evaporation ponds. Storm water that is not contained on-site is released off-site at two outfall locations. Outfall No. 1 is located on the western boundary of refinery property near Evaporation Pond 8, while Outfall No. 2 is located at the eastern boundary north of the Railroad Loading rack. Intentional releases, if necessary, are made only after careful inspection of the water for the presence of oil or other contaminants. During extreme rainfall events, some storm water may exit refinery property via sheet run-off at the northern and western boundaries.

Sanitary sewage is treated at the lift station and released at aeration lagoon one.

The locations of the evaporation ponds, storm water outfalls, and septic fields are shown on the plant site drawing in Appendix A.

6. *Location of Storage Facilities:*

The refinery uses warehouses, outdoor yards, and curbed pads for storage of various materials and equipment within the refinery. The locations of these storage facilities are shown on the plant site drawing in Appendix A.

7. *Location of Disposal Facilities*:

The refinery uses an OCD-permitted land farm identified as Central Land Farm to treat non-hazardous oily residue that is intermittently generated within the refinery. The OCD-permitted land farm is not currently receiving additional waste material and will remain as such until existing hydrocarbon constituents are more fully biodegraded. The OCD land farm is tilled on a bi-monthly basis. There is also a temporary OCD land farm identified as NE Land Farm. Gallup is currently working with OCD to close this land farm by time of permit renewal.

8. *Location of Processing Facilities:*

The refinery uses various processing units and support systems as described above. The locations of these facilities are shown on the plant site drawing in Appendix A.

9. *Location of Other Relevant Facilities Including Drum Storage*:

The locations of drum storage and other relevant facilities are labeled and shown on the plant site drawing in Appendix A.

Section 6.0 Materials Stored or Used at the Facility

The refinery receives, stores, and processes crude oil and other petroleum based feed stocks and produces various intermediate feed stocks and finished products, including propane, butane, unleaded gasoline, diesel, kerosene, and residual oil. These materials are stored in above ground atmospheric and pressurized tanks and are listed on Table 6.1 and Table 6.2 in Appendix B. These tables include the following information.

- Tank name
- Contents
- Material of Construction
- Year Tank was Built or Most Recently Modified
- Volume
- Location

The refinery also receives stores and uses a variety of additives, chemicals and other sensitive materials in order to support the operation of the refinery. These materials are listed on Table 6.3 in Appendix B. This table includes the following information.

- Material Name
- Maximum Quantity Stored On Site at Any Given Time
- Location

Items Specifically Requested in the OCD Guidance Document

The OCD guidance document specifically requires that the following categories be included in the material list.

- Process Specific Chemicals
- Acids / Caustics
- Detergents / Soaps
- Solvents / Inhibitors / Degreasers
- Paraffin Treatment / Emulsion Breakers
- Biocides
- Other

The tables in Appendix B include the materials that correspond to the above categories.

Section 7.0 Sources and Quantities of Effluent and Waste Solids Generated at the Facility

The following processing units, systems, equipment, and categories are potential sources of waste water effluent or waste solids generated at the refinery.

Sources of waste water effluent include the following. Discharges are collected in the refinery process sewer system and flow to the NAPI separator.

Boiler Feed Water Treatment System

Raw water is treated in this equipment in order to remove impurities before being supplied as feed water to the refinery boilers. In the past waste water containing dissolved solids was routinely discharged to Evaporation Pond 2 via a dedicated drainage line from the water softening units and reverse osmosis (RO) units. This line has now been tied into the process sewer system which connects to the NAPIS. Gallup would like to keep the flexibility to use the discharge line to evaporation pond 2 in the event of an emergency.

This discharge typically ranges from 70,000 to 100,000 gallons per day.

Boilers

Five boilers are in service at the refinery: two cogeneration boilers, two utility boilers and one CO boiler. Waste water containing dissolved solids is routinely discharged to the process sewer from these boilers.

This discharge typically ranges from 20,000 to 30,000 gallons per day.

Cooling Towers

Two cooling towers are in service at the refinery. Waste water containing dissolved solids and biocide residue is routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 20,000 to 50,000 gallons per day.

Crude Unit

Two desalters at the crude distillation unit are used to remove impurities and water from the crude oil. Waste water containing dissolved solids and trace hydrocarbons are routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 30,000 to 40,000 gallons per day.

Naphtha Hydrotreater Unit (NHT)

One overhead accumulator drum at this processing unit is used to remove condensed water. Waste water containing trace hydrocarbons is routinely discharged to the process sewer from this accumulator drum.

This discharge typically ranges from 600 to 800 gallons per day.

Alkylation Unit Scrubber

A scrubber tower at the alkylation unit is used to remove impurities and entrained water from a gas stream. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 1,500 to 2,000 gallons per week.

Butane Treater Column

A caustic wash column at this treater unit is used to remove impurities from butane products. Occasionally, this caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 300 to 350 gallons per week.

Straight Run Gasoline Treater Columns

A caustic wash column and a water wash column at this treater unit are used to remove impurities from an intermediate gasoline feed stock. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from the caustic wash column and routinely discharged from the water wash column.

This discharge typically ranges from 900 to 1000 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

Light Cat Gasoline Treater Column

A caustic wash column at this treater unit is used to remove impurities from a gasoline product. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 900 to 1,000 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

Alkylation Treater Column

A caustic wash column at this treater unit is used to remove impurities from an intermediate gasoline feed stock. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are intermittently discharged to the process sewer from this equipment.

This discharge typically ranges from 900 to 1,000 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

KOH Treater Columns

Six scrubber towers at these treater units are used to remove impurities from propane and butane product streams. Waste water containing dissolved solids and trace hydrocarbons are routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 100 to 150 gallons per day.

Diesel/Kerosene Treater Columns

Four salt wash columns are used to remove impurities from diesel and kerosene product streams. Occasionally, the caustic solution must be replaced and the spent solution is discarded. Waste water containing dissolved solids and trace hydrocarbons are routinely discharged to the process sewer from this equipment.

This discharge typically ranges from 250 to 800 gallons per event when changing out the caustic wash solution 2 to 3 times per year.

Sour Water Ammonia Thiosulfate (SWAATS)

At the SWAATS, ammonia and sulfur compounds will be captured and converted into ammonia thiosulfate – $3(NH_4)_2S_2O_3$)-. The ammonia thiosulfate is used as fertilizer in agriculture. The SWAATS unit is expected to result in lower emissions of sulfur compounds into the air and in the reduced input of ammonia into the refinery waste water.

Sulfur Recovery Unit (SRU)

At the SRU, sulfur compounds are recovered from refinery feed stocks and then converted into a wet solid. Waste water from a rinsing operation and a belt press dewatering operation is routinely discharged to the process sewer. This waste water contains dissolved solids and trace sulfur compounds. The SRU can be used in conjunction with or as a backup to the SWAATS.

This discharge typically ranges from 25,000 to 35,000 gallons per day.

Storage Tanks

Numerous above ground storage tanks are used within the refinery to store various products and intermediate feed stocks. Waste water containing dissolved solids and trace hydrocarbons are occasionally drained from these tanks as bottom water or decanted water and then discharged to the process sewer.

This discharge typically ranges fro 1,800 to 2,500 gallons per day. Most of this discharge comes from the crude oil storage tanks.

Heat Exchanger Back Flushing

Heat exchangers in all the processing units must be routinely back-flushed to clean out deposits. The amount of back flush water discharged is in the order of 25,000 gallons per week. The water is discharged into sewers that lead to the new API separator and through the benzene strippers prior to discharge to aeration lagoon 1.

Sources of solid waste include the following. Most of these waste materials are generated intermittently and then removed, collected, containerized, and stored until shipped off-site for recycling or disposal.

Fluid Catalytic Cracking Unit (FCCU) Catalyst

A metallic (alumina) catalyst is used within the FCCU to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is off-loaded into a bulk tank truck which then transports material for disposal to an off-site landfill. This material is a dry metallic solid and is non hazardous.

Approximately 200 to 400 tons of spent FCCU catalyst is generated each year.

Defluorinator Unit Catalyst

A metallic (alumina) catalyst is used within the Defluorinator Unit to remove trace fluorine from propane and butane products. This catalyst is periodically replaced and the spent catalyst is stored in super sacks until disposed of at an off-site landfill. This material is a dry metallic solid and is non hazardous.

Approximately 30 to 150 tons of spent Defluorinator catalyst is generated each year.

Reforming Unit Catalyst

A metallic (platinum) catalyst is used in the reforming unit to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. This material is a dry metallic solid and is shipped as a DO18 hazardous waste due to the presence of trace benzene.

Approximately 10 to 15 tons of reformer catalyst is generated every one to two years.

Naphtha/Diesel Hydrotreating Units (NHT/DHT) Catalyst

Metallic catalysts are used in these treating units to convert hydrocarbon molecules. These catalysts are periodically replaced and the spent catalysts are recycled by an off-site metal recovery service. This material is a dry metallic solid and is shipped as a K171 hazardous waste.

Approximately 1 to 55 tons of hydrotreater catalyst is generated each year.

SWAATS Catalyst

The new Sour Water Ammonia Thiosulfate Unit (SWAATS) will generate several barrels of spent catalyst every 2 to 3 years. This will be disposed of in a local landfill as it will be non-hazardous.

Spent Zinc Oxide Catalyst

A metallic (zinc) catalyst is used in the isomerization unit to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. Gallup Refinery would also like the option to be able to dispose of this material in a local landfill (Northwest New Mexico Regional Solid Waste Authority in Thoreau, New Mexico). This material is a dry metallic solid is non hazardous. OCD's Rule 712 under Section 19.15.9.712.D.3 states that catalyst may be disposed of on a case by case basis after testing required at the discretion of the OCD and after written authorization of the Division.

Approximately 2 to 3 tons of zinc oxide catalyst is generated every two years.

Sulfur By Product

Elemental sulfur by product is routinely generated at the SRU. This solid residue is stored in super sacks until shipped off for disposal at a landfill.

Approximately 6 to 50 tons of sulfur by product is currently generated each year. The quantity of waste sulfur was cut significantly once the new SWAATS unit was put into service.

Vapor Recovery Unit (VRU) Used Seal Fluid

An air pollution control system is used to capture vapor emissions during tank truck loading. This system used ethylene glycol as a seal fluid in a vacuum pump. Periodically, this fluid must be replaced.

Approximately 330 gallons of used ethylene glycol is generated per change out.

Heat Exchanger Bundle Cleaning Pad Oily Sludge

Heat exchanger bundles are periodically cleaned in order to restore heat transfer performance. This cleaning activity is conducted within a concrete enclosure that incorporates a waste water accumulation sump. Oily sediment and sludge may accumulate in the bottom of this sump. Waste water flows from this sump into the process sewer.

The heat exchanger bundle cleaning sludge is a listed hazardous waste (KO51) and is collected and contained in 55 gal drums until disposed of at an off site hazardous waste disposal facility.

The quantity of this waste typically ranges from 1 to 5 tons per year.

Process Sewer System Sludge

Sediment, sludge, and other debris can occasionally accumulate within the piping, junction boxes, and interceptor manholes that comprise the process sewer system. These materials are periodically removed via a vacuum truck and upon removal are classified as a hazardous waste (FO37) unless this material can be recycled. This material is drummed or placed into a frac tank for recycling offsite.

Maintenance Shops

Most process equipment ad mobile equipment is repaired and maintained at the refinery maintenance shops. Waste oils and antifreeze are collected in 55 gallon drums and recycled.

Approximately 2 drums of anti-freeze and 4 drums of used motor oil are generated each year.

Quality Control Laboratory

Residual petroleum products are recycled in the refinery. Residual or expired reagents and other discarded chemicals are stored in lab packs until disposed of off site.

OCD Land Farm

Oily non hazardous solid waste is treated at the OCD permitted land farm located on site.

The quantity of oil solid waste typically ranges from zero to 10 tons per year.

RCRA 90-Day Accumulation Pad

All drummed hazardous waste are kept at the RCRA 90 Day Accumulation (concrete) Pad until shipped off site for recycling, treatment, or disposal. Except for process system sewer waste removed by vacuum trucks, hazardous wastes are placed in DOT containers and kept on this dedicated concrete pad. The pad is equipped with continuous concrete curbing with more than enough capacity to contain a leaking drum's contents. The pad is posted with the

appropriate signs and provided with a fire extinguisher. The pad is inspected on a weekly basis.

Aerosol Spray Cans

Most aerosol spray cans at the refinery contain paint. All aerosol spray cans that have been used up or that have been discarded for other reasons are collected and carried to the satellite waste accumulation area. All cans are then checked for condition. All cans are punctured and drained into a dedicated 55 gallon drum. The cans are recycled as scrap metal. The drum contents are sent out for disposal as a hazardous waste.

Typically 1000 to 1500 aerosol spray cans are discarded each year.

Asbestos Containing Material (ACM)

Historically, asbestos containing materials have been used within the refinery for pipe and tank insulation. Occasionally, these materials must be removed and disposed of as part of normal maintenance activities. All friable ACM is abated in compliance with EPA and NMED regulations. ACM is placed into closed open headed 55 gallon drums, labeled and stored in a fenced enclosure in the scrap yard until arrangements are made for transport to a licensed asbestos disposal facility. Large pieces of ACM such as piping are placed into large roll-off boxes provided by the contractor and transported to a licensed asbestos landfill.

The quantity of ACM disposed of each year is highly variable, and ranges from zero to as much as 50 cubic yards.

Lead/Acid Batteries

Spent lead acid batteries are returned to the warehouse and managed as universal waste. The number of batteries recycled each year is highly variable and ranges from 40 to 75 units.

Ni-Cad Batteries

Spent nickel-cadmium batteries are returned to the warehouse and managed as universal waste. The number of batteries discarded each year is highly variable and ranges from 30 to as much as 80 units.

Spent Mercury Vapor Lamps

These are managed as universal waste.

Spent Fluorescent Bulbs

These are managed as universal waste

Used Computer Equipment, Monitors, Hard Drives

These are managed as universal waste.

Spent Sand Blasting Media

Sand blasting is occasionally conducted at the refinery as part of normal maintenance activities. After repeated reuse, the sand grit becomes degraded and loses its abrasive action. When this occurs, the spent sand blasting media must be replaced. This material is then stored in drums until disposed of at an off site landfill. This material is non hazardous.

The quantity of spent sand blasting media typically ranges from zero to 2 tons per year.

Spent Carbon from the Vapor Capture Vessels at the New API Separator

Spent carbon is sent out to be re-charged.

Section 8.0 Description of Current Liquid and Solid Waste Collection/Storage/Disposal Procedures

The following procedures are used to manage the waste water effluents and solid wastes that are generated within the refinery as described in Section 7.0.

Process Waste Water/Storm Water

Process waste water/storm water is generated at various refinery processing units, storage tanks, utility systems, and maintenance activities as described in Section 7.0. This water is collected in a sewer system located throughout the refinery processing and tankage areas. This collection system is substantially composed of concrete paving and curbing, concrete catch basins and trenches, and buried concrete and carbon steel pipe. Waste water flows by gravity to the new equalization tank (T-35) and then to the new API separator (NAPIS) where solids, sludge, and floating scum are removed. From the NAPIS, the clarified effluent flows down to the benzene strippers and then on to the aeration basins and evaporation ponds. This waste water is ultimately converted into vapor via solar ad mechanical wind effect evaporation.

Process Sewer System Sludge

Oily sediment and sludge accumulates within the piping, junction boxes and man holes of the process sewer system. This sludge is periodically removed using vacuum trucks and typically remains within the truck until it is shipped off-site for disposal or recycling. Sewer system sludge is typically incinerated or disposed of at either of the following facilities.

Motiva Enterprises, LLC – Norco Refinery
15536 River Road
Norco, LA 70079
EPA ID: LAD008186579

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Univar
US Ecology Texas
3277 County Road 69
Robstown, TX 78384

API Separator Sludge

Oily sediment and sludge accumulates at the bottom of the API separator. The API separator is taken out of service annually and the bottom sludge is removed via vacuum trucks. This sludge typically remains in the truck until it is shipped off-site for recycling.

API separator sludge is recycled as a feed stock to a petroleum Coker at the Norco Refinery.

Motiva Enterprises, LLC – Norco Refinery
15536 River Road
Norco, LA 70079
EPA ID: LAD008186579

Storage Tank Bottom Sludge

Oily sludge accumulates at the bottom of storage tanks (e.g. crude oil, FCCU feed tanks). These tanks are periodically taken out of service and the sludge is removed, containerized, and shipped off-site for oil recovery, treatment and disposal.

Motiva Enterprises, LLC – Norco Refinery
15536 River Road
Norco, LA 70079
EPA ID: LAD008186579

Univar
US Ecology Texas
3277 County Road 69
Robstown, TX 78384

Heat Exchanger Bundle Cleaning Pad Sludge

Oily sludge accumulates at the bottom of the cleaning pad sump. At the conclusion of the exchanger cleaning operation, this sludge is removed, placed in 55 gallon DOT drums, and then shipped off site for oil recovery, treatment or disposal.

Heat exchanger sludge is typically incinerated or disposed of at the following facility:

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Oily Non Hazardous Soil and Debris

Oily soil and debris is occasionally generated within the refinery due to maintenance activities, leaks, or spills. This material is collected, containerized, and then may either be treated at the OCD land farm or shipped off site for oil recovery, treatment and disposal.

When sent off site, oily soil and debris is typically disposed of at either of the following facilities:

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Gandy-Marley Land Fill
Us 380 East
Roswell, NM

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Spent FCCU Catalyst

This material is a non hazardous dry solid that is off loaded into a bulk tank truck after removal from the FCCU.

Spent FCCU catalyst is typically disposed of at either of the following facilities:

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No. SWM-172203

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Spent Reformer Catalyst

This material is a dry solid that is stored in drums or super sacks after removal from the reformer. Occasionally it is re-processed on site and then placed back into the reformer. On

other occasions, it is shipped out via truck as a benzene characteristic (DO18) hazardous waste for recycling at an off site facility.

When sent off-site, spent reformer catalyst is recycled at either of the following facilities:

Tricat, Inc.
Spent Catalyst Regeneration Facility
100 Taylor Blvd.
McAlester, OK 74501
EPA ID: OKD987097151

Spent NHT/DHT Catalyst

This material is a dry solid that is stored in drums or super sacks after removal from the treater units. After removal, it is shipped out via truck as a K171 hazardous waste and recycled at an off site facility.

When sent off site, spent treater catalyst is recycled at either of the following facilities:

Tricat, Inc.
Spent Catalyst Regeneration Facility
100 Taylor Blvd.
McAlester, OK 74501
EPA ID: OKD987097151

Eurecat
13100 Bay Park Road
Pasadena, TX 77505
EPA ID: TXD06829963

Catalyst Recovery of LA, LLC
100 America Blvd.
Lafayette, LA 70508
EPA ID: LAD980622161

Spent Defluorinator Catalyst

This material is a non hazardous dry solid that is stored in drums or super sacks after removal from the defluorinator.

Spent defluorinator catalyst is typically disposed of at either of the following facilities:

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No. SWM-172203

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Zinc Oxide Catalyst

Spent zinc oxide catalyst is collected in super sacks and then shipped by truck to the northwest New Mexico Regional Solid Waste Authority in Thoreau, New Mexico.

SRU Sulfur By Product

This material is a non hazardous wet solid that is drained and stored in super sacks after being generated at the SRU.

Sulfur by product is typically disposed at either of the following facilities.

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No. SWM-172203

Waste Management of Arizona
Painted Desert Land Fill
9001 North Porter Avenue
Joseph City, AZ 86032
EPA ID: AZR05B244

Mercury Contaminated Waste Materials

Fluorescent light bulbs, instrument contents are handled as universal waste and transported via truck and recycled at:

Recyclights
405 W. 86th Street
Minneapolis, MN 55420
EPA ID: MND000903463

Excess or off-spec Chemicals

These materials are typically generated at the quality control laboratory and then placed in lab pack disposal containers. Gallup Refinery contracts the services of Rinchem to properly handle, treat, and/or dispose of used chemical lab packs at:

Rinchem Company, Inc.
6133 Edith Blvd. NE
Albuquerque, NM 87107
EPA ID: NMD002208627

Asbestos Containing Material (ACM)

The materials are regulated as a special waste and are stored in doubled plastic bags and placed inside a 55 gallon DOT drum and disposed of at the licensed Keers Environmental land fill in Mountainair, New Mexico at:

Keers Environment, Inc
Disposal Site
Mountainair, NM 87036
EPA ID: NMD147273528

Cooling Tower Sludge and Salt

This material is generated in the cleaning of cooling towers and contains primarily sodium and chloride. This material is non hazardous and none detect for TCLP metals. Gallup Refinery has made application to dispose of this material at:

Northwest New Mexico Regional Solid Waste Authority
101 Red Mesa Bluffs Drive
Thoreau, NM 87323
Permit No SWM-172203

Section 9.0 Proposed Modifications

A new equalization tank (T-35) was constructed in 2010 and placed into service on 1/13/11. Process waste water and storm water now flows into T-35 which controls flow to the NAPIS. The equalization tank (T-35) is also used to store waste water for a couple of days if problems are encountered with downstream equipment (NAPIS and Benzene Strippers) and in the future with the new DGF (Dissolved Gas Flotation) and MPPE units.

The OAPIS will be taken out of service by March 1, 2011.

An upgraded waste water treatment plant and diversion tank system will be constructed and startup is scheduled for February 29, 2012. A new DGF (Dissolved Gas Flotation) unit and MPPE unit will be installed after the NAPIS. The purpose of the new waste water treatment plant is to reduce Benzene in waste water effluent to below 0.5 ppm and allow the benzene strippers to be taken out of service. Diversion piping for off spec waste water is also being installed that will allow diversion to Tank 27 and Tank 28 when needed. This waste water will then be sent back through the NAPIS when appropriate.

Aeration lagoons 1 and 2 will be closed and EP-1 will also be closed in place. A new lined impoundment STP-1 (Sewage Treatment Pond) will be constructed and in operation by February 29, 2012. The new waste water treatment plant effluent will then flow to STP-1 and then to EP-2. The sanitary waste water will flow from the lift station to STP-1 which will contain aerators for treating the sanitary waste water.

OCD approval of the Process Design Report for the Waste Water Treatment Plant Work Plan was received on May 25, 2010.

Section 10.0 Inspection, Maintenance, and Reporting

Refinery personnel and contractors routinely conduct inspection, maintenance, and repair of all processing units, systems, tanks, equipment, instrumentation, valves, piping, and other items necessary for the continued operation of the refinery. Some of these activities are conducted under the auspices of applicable regulations (e.g. 29 CFR 1910.110 – OSHA Process Safety Management Standard) and involve detailed record keeping and reporting. Specific procedures that relate to sources of liquid effluent and solid waste are described as follows:

Process Waste Water/Collection System

Paving, curbing, catch basins and trenches collect process waste water which then flows through the sewer system to an equalization tank (T-35), API separator and then through the benzene strippers before being discharged into the aeration lagoons followed by a series of evaporation ponds. All storm water that falls within the process area collection system is considered process wastewater. The installation of the equalization tank (T-35) allowed the OAPIS to be taken out of service which occurred in early 2011.

Paving, curbing, catch basins, and trenches are routinely inspected for integrity. Previously, a video inspection technique was used to examine sewer system piping and components. As required by OCD, the refinery uses pressure testing to verify the integrity of sewer system components. Gallup Refinery conducts the pressure testing in increments of 20% per year over a five year period until the entire system has been checked. This test program uses the OCD methodology and criteria.

The New API separator (NAPIS) is emptied and inspected bi-annually. The refinery installed stainless steel liners in the NAPIS that serve as the primary containment. A non permeable coating was applied to the inside walls and floor of the concrete bays.

The benzene strippers are inspected at least once per year. At least quarterly, packing is removed and cleaned. At this time, the stripper vessels are emptied and internally inspected. If needed, repairs are made before placing the strippers back in service.

Refinery operations personnel routinely conduct visual surveillance of process areas and monitor the integrity of concrete paving, curbing, catch basins, and trenches. Problems with containment systems are reported to the maintenance department for repair.

Storm Water

Activities at this site fall under Sector C of the MSGP (Chemical and Allied Manufacturing, and Refining). A Storm Water Pollution Prevention Plan (SWPP) has been prepared in accordance with good engineering practices and identifies potential sources of pollution that one would reasonably expect to affect the quality of storm water discharges from this site. Description of existing and planned Best Management Practices (BMPs) can be found in

Section 2.8 of the SWPP (Storm Water Prevention Plan) which his kept on site. A copy can be made available upon request.

Storage Tanks, Petroleum, and Chemical Storage Areas

Refinery operations, warehouse, safety, environmental, technical services, and laboratory field personnel routinely conduct visual surveillance of storage areas and monitor the integrity of containment and check for leakage or other problems. All incidents and near misses are reported to the refinery management for follow up action and response. Additional information is included in the refinery ICP and SPCC.

Ground Water Monitoring

Ground water monitoring is used to detect signs of leakage from the process areas and the surface impoundments. The observation, measurement, sampling frequency, and type of analysis are listed in Appendix C.

Ground water monitoring well (GWM-1) was installed down gradient of the aeration basins in order to monitor for the presence of shallow ground water and used to detect potential leakage from the aeration basins. The location of this well was determined in the field after mutual consultation by representatives of the refinery, OCD, and the drilling contractor. The well was drilled into a sand zone and contains water. In September 2005, two new dry wells were installed (GWM-2 and GWM-3). GWM-2 is located at the NW corner of aeration lagoon 2 and GWM-2 is located at the NW corner of evaporation pond 1. Both wells were drilled below the bottom of the lagoons and are monitored quarterly for the presence of water. If any water is found, the refinery will notify OCD and NMED within 24 hours.

The ground water monitoring wells (GWM-1, GWM-2, GWM-3) and the observation wells (OW-11, 12, 13, 14, 29, 30) and monitoring wells (MW-1, 4, 5) and shallow monitoring wells (SMW-2, 4) are routinely measured, sampled, and analyzed so as to provide the information necessary to detect an adverse ground water impact and allow for a timely and effective response.

On an annual basis, a grab sample of the inlet water to evaporation pond 2 is collected and analyzed for BOD, COD, VOC, GRO/DRO extended, and TDS.

On a semi- annual basis a grab sample of evaporation pond water 1 through 12B is collected and analyzed for general chemistry, VOC, SVOC, BOD, COD, E-Coli Bacteria, WQCC Metals Total and Dissolved.

New Wells Installed

Two new shallow ground water observation wells (OW-50 and OW-52) were installed in October 2009, north of OW-13 and down gradient of OW-29 and OW-30. These wells were installed per NMED HWB request dated 5/28/09 "*Requirement to Install Monitoring Wells*", to determine if any constituent has migrated north, northwest of the refinery and potentially

offsite from an increase of MTBE levels in Wells OW-14, OW-29 and OW-30 and the presence of MTBE in OW-13 (0.0023 mg/L) below RRSL standards. OW-50 is screened at 48-63 feet and a total depth of 63 feet. OW-52 is screened at 64-79 feet and a total depth of 79 feet. These two wells were added to the annual update to the Refinery Wide Groundwater Monitoring Plan to be sampled on a quarterly basis for the following parameters: VOC, SVOC, DRO/GRO, RCRA 8 Metals, and General Chemistry. Copies of the well drilling logs are in Appendix D.

Waste Water from Pilot Travel Center and Truck Stop Facility

Pilot effluent samples are collected quarterly at aeration lagoon 1. Samples are analyzed for the following parameters. VOC/GRO/DRO extended, BOD, COD, WQCC Metals Total and Dissolved.

Process Wells

PW-4 was sampled on August 4, 2004, September 12, 2008 and July 28, 2010 and every three years thereafter beginning with 2007. PW-2 was sampled on December 9, 2004, September 12, 2008 and next scheduled sampling is in the year 2011. PW-3 was sampled on October 17, 2006, August 21, 2008 and next scheduled sampling is in the year 2011. These production/process wells are scheduled for sampling every three years.

Perimeter Inspections

In 2004 Gallup Refinery commenced perimeter searches of the refinery property on a bi-monthly basis. The inspection focuses on hydrocarbon staining or any release that could result in contamination leaving the property boundary. The refinery has prepared an inspection check list that is completed and signed by the environmental employee conducting the inspection. Completed inspection sheets are maintained on site.

Recovery Wells

Separate Phase Hydrocarbons (SPH) floating on shallow ground water has been found at the north-east end of the facility and a system of recovery wells were installed in 1995 and 1997. The recovery wells are designated as RW-1, RW-2, RW-5 and RW-6. All of the recovery wells are gauged for depth to water (DTW) and depth to product (DTP) measurements on a quarterly basis. RW-1 free product is pumped out on a quarterly basis using a bladder type pump. Recovery through hand-bailing is still on-going for RW-5 and RW-6 which have shown a steady decline in free product levels.

Temporary Land Farms (Northeast and Central OCD Land Farms)

The refinery uses an OCD-permitted land farm (Central Land Farm) to treat non-hazardous oily residue that is intermittently generated within the refinery. The OCD-permitted land farm is not currently receiving additional waste material and will remain as such until existing hydrocarbon constituents are more fully biodegraded.

There is also a temporary OCD Land Farm known as NE Land Farm. Gallup is currently working with OCD to close this land farm by time of permit renewal. Both of these land farms are tilled/disked bi-monthly and sampled on a semi-annual basis.

Section 11.0 Spill/Leak Prevention and Reporting Procedures

The Gallup Refinery has developed, implemented, and maintains a Contingency Plan (CP). Although this facility is designed, constructed, maintained and operated in a manner that minimizes the possibility for emergency incidents such as fire, explosions and any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water, this (CP) is designed to minimize hazards to human health and the environment in the unlikely event of such incidents. The (CP) is designed to satisfy the requirements of all applicable New Mexico Hazardous Waste Regulations (NMAC 20.4.1.600) and Federal Hazardous Waste Regulations (40 CFR 262.34(a)(4) and 40 CFR 265.50-265.56). A copy of the (CP) is included with the OCD Permit Renewal Application.

The Gallup refinery also maintains the following plans which can be made available to OCD upon request:

- EPA Spill Prevention, Control, & Countermeasures Plan (40 CFR Part 112.7)
- EPA Facility Response Plan (40 CFR Parts 112.20 and 112.21)
- EPA Risk Management Plan (40 CFR Part 68)
- EPA Storm Water Pollution Prevention Plan (SWPPP)

Section 12.0 Site Characteristics

Built in the 1950's, the Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown, New Mexico, 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope of the continental divide. The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Pilot Travel Center (formerly Giant) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than 7 inches per year.

Local topography consists of an inclined down-slope from high ground in the southeast to a lowland fluvial plain in the northwest. The highest point on refinery property is located at the southeast corner boundary (elevation approximately 7,040 feet) and the lowest point is located at the northwest corner boundary (elevation approximately 6,860 feet). The refinery processing facility is located on a flat man-made terrace at an elevation of approximately 6,950 feet.

Surface water in this region consists of the man-made evaporation ponds and aeration basins located within the refinery, a livestock watering pond (Jon Myer's Pond) located one mile east of the refinery, two small unnamed spring fed ponds located south of the refinery, and the South Fork of the Puerco River and its tributary arroyos. The various ponds and basins typically contain water consistently throughout the year. The South Fork of the Puerco River and its tributaries are intermittent and generally contain water only during, and immediately after, the occurrence of precipitation.

The 810 acre refinery property site is located on a layered geologic formation. Surface soils generally consist of fluvial and alluvial deposits; primarily clay and silt with minor inter-bedded sand layers. Below this surface layer is the Chinle Formation, which consists of very low permeability clay stones and siltstones that comprise the shales of this formation. As such, the Chinle Formation effectively serves as an aquiclude. Inter-bedded within the Chinle Formation is the Sonsela Sandstone bed, which represents the uppermost potential aquifer in the region.

The Sonsela Sandstone bed lies within and parallels the dip of the Chinle Formation. As such, its high point is located southeast of the refinery and it slopes downward to the northwest as it passes under the refinery. Due to the confinement of the Chinle Formation aquiclude, the Sonsela Sandstone bed acts as a water-bearing reservoir and is artesian at its lower extremis. Artesian conditions exist through much of the central and western portions of the refinery property.

Ground water flow within the Chinle Formation is extremely slow and typically averages less than 10^{-10} centimeters per second (less than 0.01 feet per year). Ground water flow within the surface soil layer above the Chinle Formation is highly variable due to the presence of

complex and irregular stratigraphy; including sand stringers, cobble beds, and dense clay layers. As such, hydraulic conductivity may range from 10^{-8} centimeters per second in the clay soil layers located near the surface up to 10^{-2} centimeters per second in the gravelly sands immediately overlying the Chinle Formation. Figure 4 depicts the regional surface water flows are in a westerly direction. Figure 5 depicts surface water bodies and flow lines. Shallow ground water located under refinery property generally flows along the upper contact of the Chinle Formation. Although the prevailing flow direction is from the southeast and toward the northwest; a subsurface ridge has been identified and is thought to deflect some flow in a northeasterly direction in the vicinity of the refinery tank farm.

Items Specifically Requested in the OCD Guidance Document

Section A – Hydrologic/Geologic Information

1. *Provide the name, description, and location of any bodies of water, streams, or other water courses; and ground water discharge sites within one mile of the outside perimeter of the facility. For water wells, locate wells within one-quarter mile of the outside perimeter of the facility and specify use of water.*

   The following water bodies are located within one mile of the outside perimeter of the refinery

   Aeration Basins

   The Aeration basins are shown on the plant site drawing in Appendix A.

   Evaporation Ponds

   The evaporation ponds are shown on the plant site drawing in Appendix A.

   Storm Water Retention Areas

   The storm water retention areas are shown on the plant site drawing in Appendix A.

   The South Fork of the Rio Puerco and is Tributaries

   The south fork of the Rio Puerco and its tributary arroyos are shown on the Regional Scale Map, Figure 4.

   Jon Myer's Pond (NE ¼, Section 34, T15N, R15W)

   Jon Myer's Pond is located approximately one mile east of the plant site and is a source of water for cattle. The pond is shown on the Localized Scale Map, Figure 5.

Unnamed Ponds (NW ¼, Section 4, T14N, R15W)

These unnamed ponds are located approximately ¼ mile south of Interstate40.

Unnamed Artesian Surface Seep (south of Evaporation Pond 9)

A small marshy area is located south of Evaporation Pond 9. This marsh results from a surface seep of artesian water from the Sonsela Sandstone Bed.

2. *Provide the depth to and total dissolved solids concentrations of the ground water most likely to be affected by any discharge. Include the source of information and how it was determined. Provide a recent water quality analysis of the ground water, if available, including the name of analyzing laboratory sample date.*

In this permit application, shallow ground water is defined to be ground water that lies above the Chinle Formation aquiclude. Shallow ground water is the ground water most likely to be affected by any discharge at the refinery.

Shallow ground water located under the refinery is irregular, intermittent, and frequently discontinuous. As such, it represents an unreliable and unpredictable potential water source, and consequently is not extracted for beneficial use in this region.

Due to irregular surface topography and the inclined nature of the Chinle Formation, depth to ground water is highly variable in the vicinity of the refinery property. Ground water may be encountered as little as 1 foot below ground surface in the marsh area south of Evaporation Pond 9 and as much as 180 feet below ground surface at the northwest corner of the refinery.

Sampling and analysis of shallow ground water has been ongoing at the refinery since the mid 1980's and this data has been supplied to OCD in the Annual Ground Water Reports.

3. *Provide the following information and attach or reference source information.*

   a. *Soil Type(s)*

Soil types vary from fine sands at the southeast boundary of the refinery to highly plastic clays located at the northwestern boundary of the refinery.

This information was obtained from the Soil Conservation Service McKinley County Soil Map

b. *Name of aquifer(s)*

The uppermost useable aquifer is the Sonsela Sandstone Bed located within the Petrified Forest Member of the Chinle Formation. Mr. Bill Kingsley, P.E., supplied this information.

c. *Composition of aquifer material.*

The Sonsela Sandstone Bed is composed of sandstone. The information is from numerous drilling logs. Copies of these logs are included in Appendix D.

d. *Depth to rock at base of alluvium*

Bedrock depth ranges from exposed to over 85 feet below ground surface at the northwest corner boundary.

4. *Provide information on*:

a. *The flooding potential at the discharge site with respect to major precipitation and/or run-off events.*

The alluvial flat lands located at the north, northwestern, and western sections of the refinery are located within a flood plain as shown on the FEMA maps.

b. *Flood protection measures.*

The evaporation ponds are protected against flood impacts by the minimum 8 foot high earthen berms which form the containment of the ponds.

Section B – Additional Information

1. *Provide stratigraphic information including formation and member names, thickness, lithologies, lateral extent, etc.*

A stratigraphic profile diagram of the refinery is provided in Appendix E.

2. *Provide generalized maps and cross-section.*

A plant site drawing is provided in Appendix A and a stratigraphic profile diagram of the refinery site is provided in Appendix E.

3. *Provide potentiometric maps for aquifers potentially affected.*

This map is provided in Appendix F.

4. *Provide porosity, hydraulic conductivity, storativity and other hydrologic parameters of the aquifer.*

Porosity	10-20 Percent
Conductivity	0.01 – 0.05 cm/s

5. *Provide specific information on the water quality of the aquifer.*

Sampling and analysis of shallow ground water has been on going at the refinery since the mid 1980's and this data has been supplied to OCD in the Annual Ground Water Reports.

6. *Provide information on expected alteration of contaminants due to sorption, precipitation or chemical reaction in the unsaturated zone, and expected reactions and/or dilution in the aquifer.*

The predominant type of contaminant at the refinery is petroleum hydrocarbons. Petroleum hydrocarbons are easily adsorbed onto soil particles and tend to remain in the interstitial voids until washed out by precipitation or consumed by micro-organisms. Petroleum hydrocarbons do not tend to react with soil particles.

Section 13.0 Other Compliance Information

The Gallup Refinery was constructed in 1957 and has been in near continuous operation since that time. Over the years, various releases of petroleum-based products and other materials have occurred, largely as a result of minor spills, equipment leaks, waste treatment activities, and from former impoundments and disposal sites. As a result, surface soil, subsurface soil, and ground water has been impacted at various locations and over various time periods spanning the past 46 years.

Some of these sources of prior contamination are now fully remediated, closed and no longer represent a source of release to the environment. Examples of this include the following Solid Waste Management Units (SWMUs).

- SWMU #3 Empty Container Storage Area
- SWMU #4 Old Burn Pit
- SWMU #5 Landfill Area
- SWMU #9 and #14 Drainage Ditch Near the Inactive Land Farm
- SWMU #10 Sludge Pits
- SWMU #11 Secondary Oil Skimmer
- SWMU #13 Drainage Ditch Between API Evaporation Ponds and Neutralization Tank Evaporation Ponds (a.k.a. Drainage Ditch between API Evaporation Ponds and the North Series and South Series of Ponds)

Other sources of prior contamination are still in the process of final closure and no longer represent a source of release to the environment. An example of this is the RCRA Land Treatment Unit. Gallup Refinery is working with NMED to complete the closure of this site and will conduct monitoring for several years under a post-closure care plan.

Some sources of prior contamination are still in the process of investigation or remediation, and consequently may represent a continuing source of release. An example of this is SWMU #6, Tank Farm – Leaded Gasoline Tanks. Although the original source of release (a hole in a storage tank bottom) has been repaired, residual hydrocarbons may still be present in the soil and ground water located under the Main Tank Farm. A hydrocarbon recovery system has been installed and is continuing to operate. Another example is SWMU #8, Railroad Rack Lagoon. This former retention pond was taken out of service in the 1980's and no longer receives waste water from the railcar loading rack. Clean up of the lagoon was performed in late 2004 and 2005 and filled with clean soil. A Remedy Completion Report was submitted to NMED in February 2006. NMED requested that an additional study be conducted in the overflow ditch and fan-out area. Trihydro Corporation performed an investigation of the overflow ditch and fan-out area in October 2006. Soil removal took place from 2006 through 2010. On December 17, 2010, an "*Approval with Modifications Railroad Rack Lagoon Overflow Ditch and Fan-Out Area*" was received from NMED HWB allowing back fill of this area which was completed in January 2011. On January 26, 2011, an "*Approval With Modifications Remedy Completion Report Railroad Rack Lagoon (SWMU No. 8) Revised Report*", was received from NMED HWB notifying Western Refining that the site currently qualifies for corrective action complete with controls status,

and Western may petition NMED for a corrective action complete determination for SWMU 8.

Other SWMUs were previously investigated to determine if they might be a potential source of release to the environment. This includes the Contact Waste Water Collection System (Process Sewer System), the Aeration Basins, and the Evaporation Ponds. Each of these units is an active and vital component of the refinery's waste water treatment system.

Figure 1: Regional map showing the location of the Gallup Refinery (red star along Interstate-40, 20 miles east of the City of Gallup).

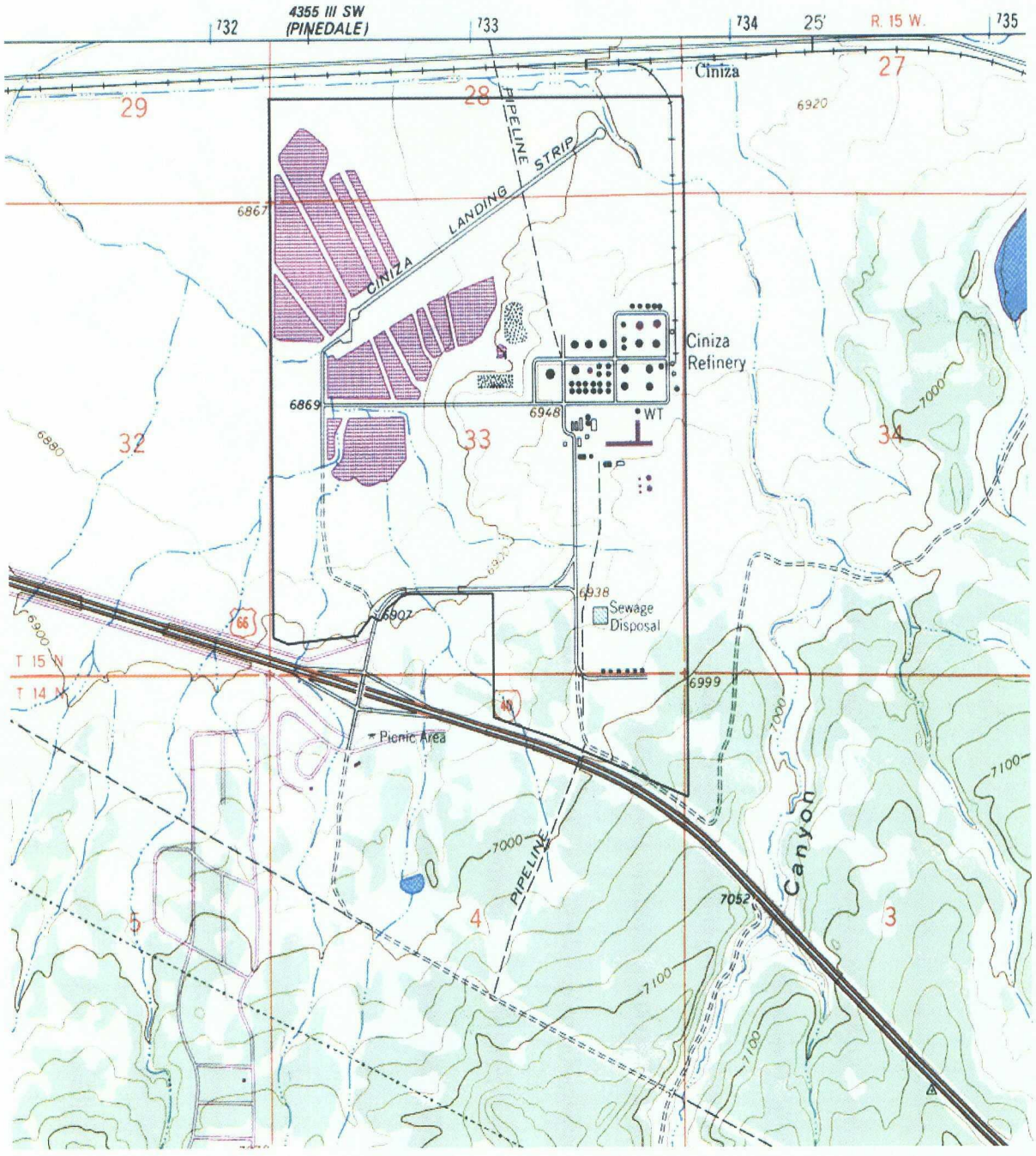


Figure 2: Topographic Map of the Gallup Refinery Site - USGS Topographical Map - Gallup Quadrangle (Revised 1980)

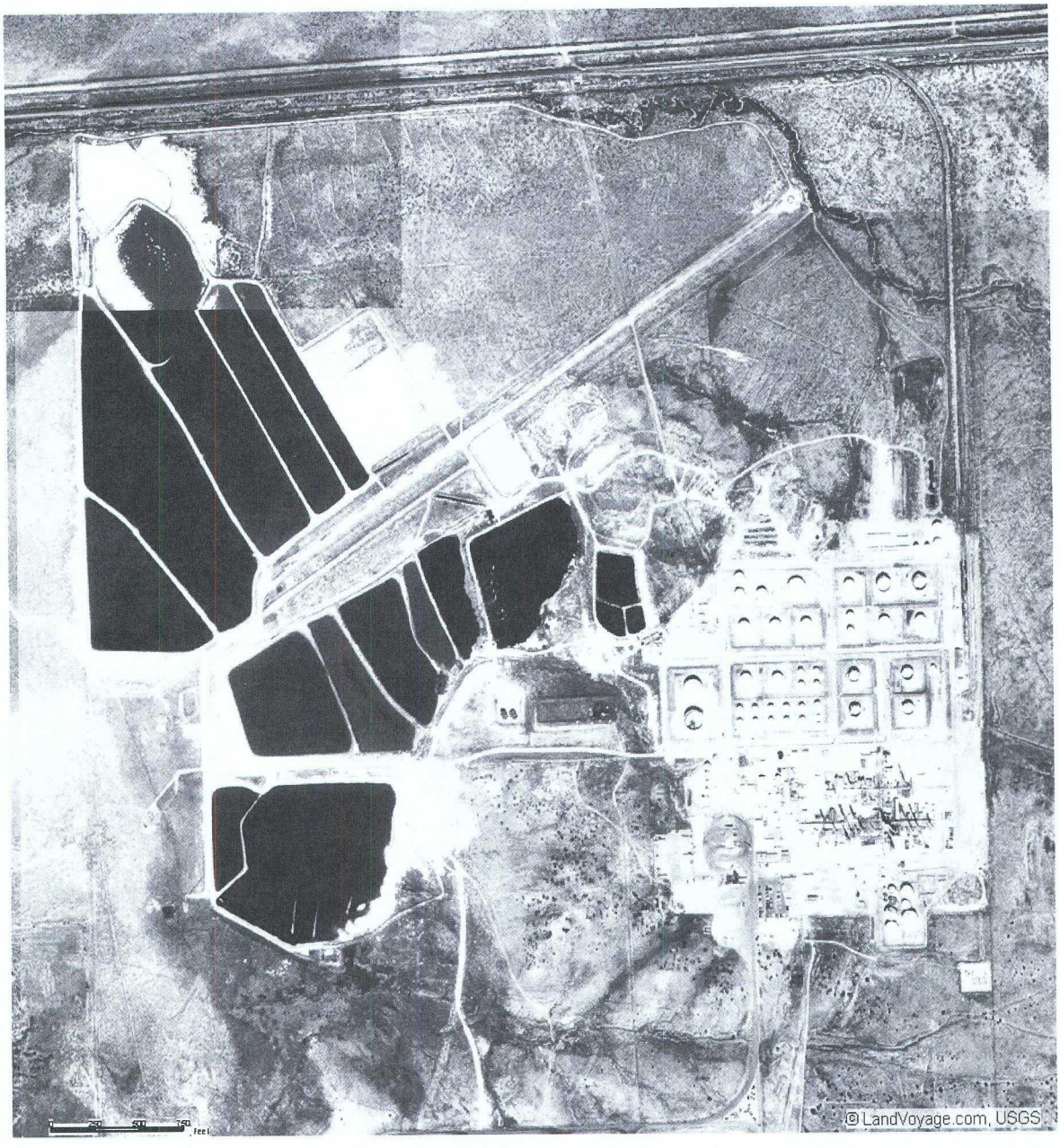


Figure 3: Aerial photograph of the Gallup Refinery

Figure 4: **Regional scale**: Flow lines and major surface water bodies (from: EPA Enviromapper - http://map24.epa.gov/EMR/?ZoomToWatershed=15020006) North is towards the top of the page.

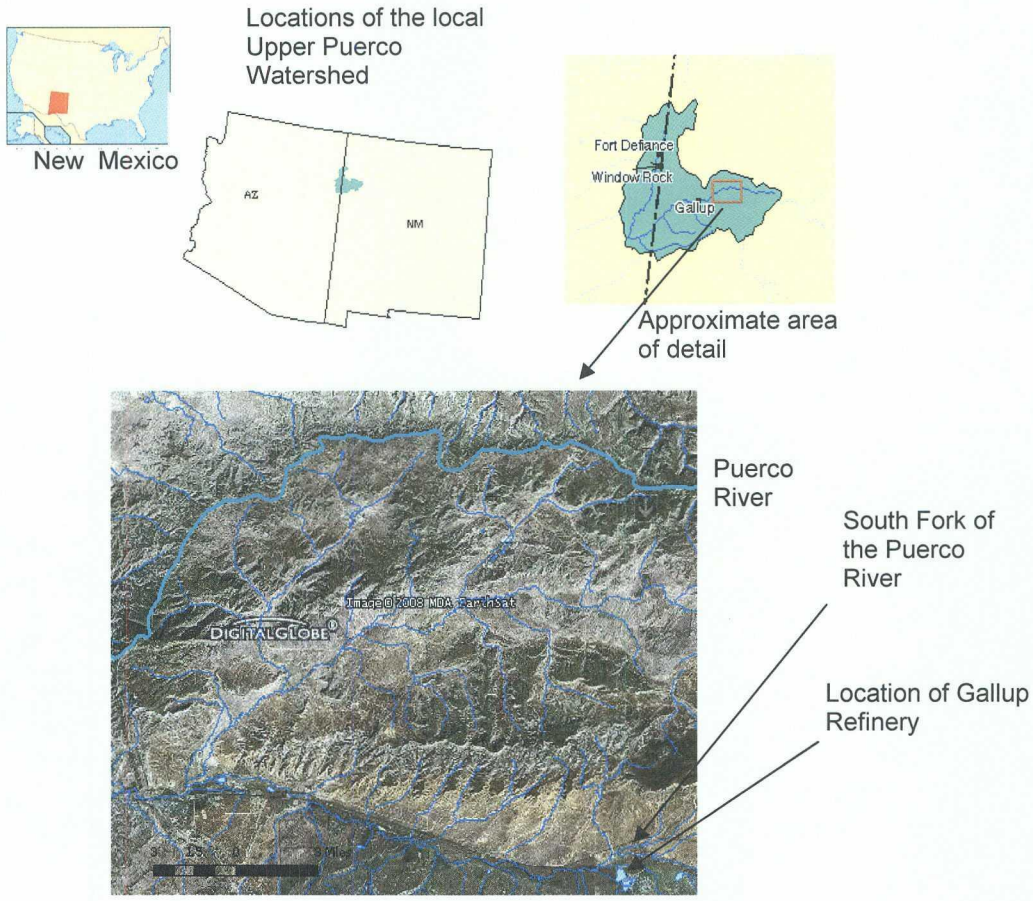
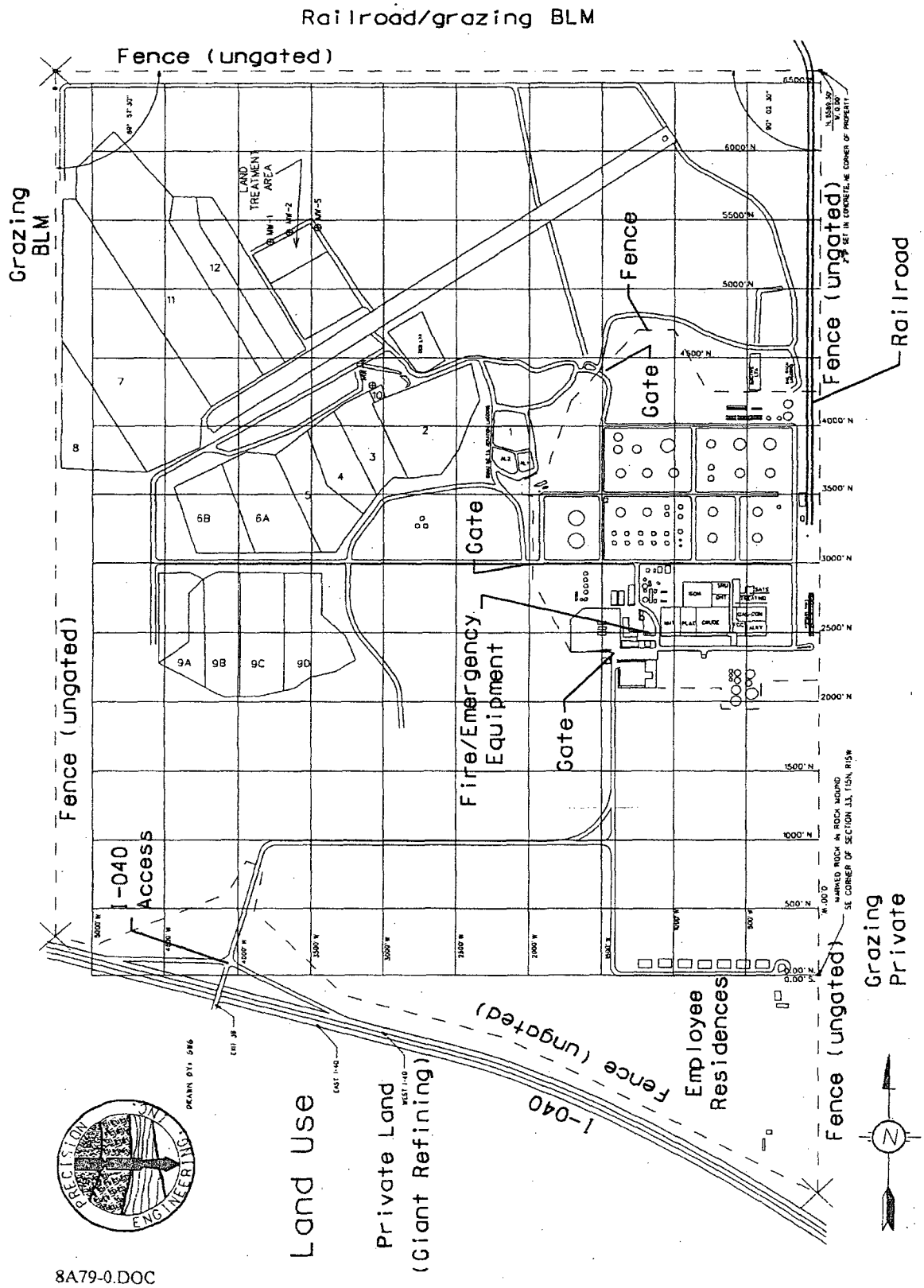


Figure 5: Localized scale: Flow lines and major surface water bodies (from: EPA Enviromapper - http://map24.epa.gov/EMR/?ZoomToWatershed=15020006) North is towards the top of the page. The pond to the east is Jon Myers' Livestock Pond.

Appendix A – Plant site Drawing



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Appendix B - Table 6.1 Materials Stored in Atmospheric Storage Tanks

Table 6.1 Materials Stored in Atmospheric Storage Tanks				
TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-1	1965	3,000	DIESEL	Marketing Tank Area
TK-2	1965	4,000	UNLEADED PREMUM	Marketing Tank Area
TK-3	1965	4,000	87.0 OCTANE	Marketing Tank Area
TK-4	1970	3,800	83.0 OCTANE	Marketing Tank Area
TK-5	1963	1,800	ETHANOL	Marketing Tank Area
TK-6	1963	1,800	LT STRAIGHT RUN	Marketing Tank Area
TK-7	1946	330	ISOMERATE	Marketing Tank Area
TK-101	1957	80,000	CRUDE	Main Tank Farm
TK-102	1991	80,000	CRUDE	Main Tank Farm
TK-106	1957	5,000	TRANSMIX	Main Tank Farm
TK-107	1957	5,000	SLOP OIL	Main Tank Farm
TK-108	1957	5,000	ALKLATE	Main Tank Farm
TK-111	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-112	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-115	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-116	1957	5,000	DHT PRODUCT	Main Tank Farm
TK-117	1983	250	OUT OF SERVICE (De-Icer)	Main Tank Farm
TK-225	1957	25,000	DISTILLATE	Main Tank Farm
TK-226	1957	25,000	KERSOSENE	Main Tank Farm
TK-227	1957	5,000	K-1	Main Tank Farm
TK-228	1957	5,000	K-1	Main Tank Farm
TK-231	1957	5,000	TRANSMIX	Main Tank Farm
TK-232	1957	5,000	TRANSMIX	Main Tank Farm

Table 6.1 Materials Stored in Atmospheric Storage Tanks – continued

TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-235	1957	5,000	TRANSMIX	Main Tank Farm
TK-337	1977	20,000	ETHANOL	Main Tank Farm
TK-338	1964	25,000	SWEET NAPHTHA	Main Tank Farm
TK-339	1957	25,000	SOUR NAPHTHA	Main Tank Farm
TK-342	1957	5,000	ETHANOL	Main Tank Farm
TK-343	1957	5,000	ETHANOL	Main Tank Farm
TK-344	1977	20,000	REFORMATE	Main Tank Farm
TK-345	1977	20,000	REFORMATE/ETOH	Main Tank Farm
TK-446	1945	700	OLEFINS/ISO BUTANE	Bullet Tank
TK-447	1957	1,373	ISO-BUTANE	Bullet Tank
TK-448	1957	1,373	ISO-BUTANE	Bullet Tank
TK-451	1957	1,000	OUT OF SERVICE	Main Tank Farm
TK-452	1957	1,000	OUT OF SERVICE	Main Tank Farm
TK-453	1957	5,000	OUT OF SERVICE	Main Tank Farm
TK-554	1974	2,073	BUTANE/PROPANE	Bullet Tank
TK-555	1974	2,073	ISO-BUTANE	Bullet Tank
TK-556	1957	718	PROPANE	Bullet Tank
TK-557	1957	718	PROPANE	Bullet Tank
TK-560	1957	2,300	BUTANE	Bullet Tank
TK-561	1957	2,300	BUTANE	Bullet Tank
TK-562	1986	20,000	ISOMERATE	Bullet Tank
TK-563	1986	20,000	NAT. GASOLINE	Bullet Tank
TK-564	1957	5,000	NAT.GASOLINE/ISOMERATE	Bullet Tank
TK-565	1957	5,000	ISOM/NAT GASO/TOL	Bullet Tank
TK-567	1969	20,000	UNLD. REG.	Main Tank Farm

Table 6.1 Materials Stored in Atmospheric Storage Tanks – continued

TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-568	1998	2,000	AMMONIUM THIOSULFATE	Main Tank Farm
TK-569	1957	25,000	83.O UNLD. REG.	Main Tank Farm
TK-570	1957	25,000	87.0 UNLD REG.	Main Tank Farm
TK-571	1957	25,000	87.0 UNLD REG.	Main Tank Farm
TK-572	1957	25,000	87.0 UNLD REG.	Main Tank Farm
TK-573	1957	250	OUT OF SERVICE (Kerosene)	Main Tank Farm
TK-574	1968	40,000	ST.RUN	Main Tank Farm
TK-575	1957	10,000	JET-A/K1	Main Tank Farm
TK-576	1968	40,000	PREMUM BASE	Main Tank Farm
TK-577	1957	10,000	DIESEL	Main Tank Farm
TK-579	1957	20,000	DIESEL	Main Tank Farm
TK-581	1957	25,000	LCO	Main Tank Farm
TK-582	1957	25,000	UNLEADED PREMUM	Main Tank Farm
TK-583	1996	55,000	DIESEL	Main Tank Farm
TK-701	1963	37,000	FCC FEED	Hot Oil Tank Farm
TK-702	1963	25,000	FCC FEED	Hot Oil Tank Farm
TK-703	1963	25,000	RESIDUE/FCC FEED	Hot Oil Tank Farm
TK-704	1963	10,000	FUEL OIL	Hot Oil Tank Farm
TK-705	1963	10,000	FUEL OIL	Hot Oil Tank Farm
TK-706	1963	10,000	FUEL OIL	Hot Oil Tank Farm
TK-707	1963	1,000	SLOP OIL	Hot Oil Tank Farm
TK-708	1963	1,000	Residue	Hot Oil Tank Farm
TK-709	1963	1,000	RESIDUE	Hot Oil Tank Farm
TK-713		1,000	OUT OF SERVICE	Hot Oil Tank Farm

Table 6.1 Materials Stored in Atmospheric Storage Tanks – continued

TANK NUMBER	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-714	1969	30,000	FCC FEED	Hot Oil Tank Farm
TK-27	1979	5,000	PROCESS/ STORM WATER	West of Tank 101/102
TK-28	1979	5,000	PROCESS/ STORM WATER	West of Tank 101/102
TK-35	2010	30,000	PROCESS/ STORM WATER	West of Tank 101/102
Z71-TK-716	2006	997	AMMONIUM THIOSULFATE	Main Tank Farm

Appendix B

Table 6.2 Materials Stored in Pressurized Storage Tanks

TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	PRODUCT	LOCATION
TK-446	1945	700	OLEFINS/ISO BUTANE	Bullet Tank
TK-447	1957	1,373	ISO-BUTANE	Bullet Tank
TK-448	1957	1,373	ISO-BUTANE	Bullet Tank
TK-554	1974	2,073	BUTANE/PROPANE	Bullet Tank
TK-555	1974	2,073	ISO-BUTANE	Bullet Tank
TK-556	1957	718	PROPANE	Bullet Tank
TK-557	1957	718	PROPANE	Bullet Tank
TK-560	1957	2,300	BUTANE	Bullet Tank
TK-561	1957	2,300	BUTANE	Bullet Tank
TK-562	1986	20,000	ISOMERATE	Bullet Tank
TK-563	1986	20,000	NAT. GASOLINE	Bullet Tank
TK-564	1957	5,000	NAT.GASOLINE/ISOMERATE	Bullet Tank
TK-565	1957	5,000	ISOM/NAT GAS/TOL	Bullet Tank

Appendix B

TABLE 6.3 Other Materials Stored at the Refinery

PRODUCT	MAXIMUM VOLUME	LOCATION
Antifreeze	14 – 55 gal drums	Warehouse Yard/Process Area
Ethylene Glycol	6 – 350 gallon totes	Sats Unit/Warehouse Yard
Z Seal (Ethylene glycol)	10 – 55 gallon drums	Vapor Recovery Unit/Whse Yard
Automatic Transmission Fluid	8 – 55 gallon drums	WarehouseYard/ Process area
Engine Oil	10 – 55 gallon drums	WarehouseYard/ Process area
Turbine Oil	40 – 55 gallon drums	WarehouseYard/ Process area
Hydraulic Fluid	6 – 55 gallon drums	WarehouseYard/ Process area
Gear Oil	14 – 55 gallon drums	WarehouseYard/ Process area
Transformer Oil	10 – 55 gallon drums	WarehouseYard/ Process area
Grease	>100 – 14 oz tubes	WarehouseYard/ Process area
Spindle Oil	4 – 55 gallon drums	WarehouseYard/ Process area
Lube Oil	2 - 1000 gallon bulk tank	Gas Con & Plat Compressor area
Lube Oil	4 – 55 gallon drums	Warehouse Yard/Process area
80 Octane Additive	4 – 55 gallon drums	Warehouse Yard/Lab Storage
Iso Octane	2 - 55 gallon drums	Warehouse Yard/Lab Storage
Heptane	2 - 5 gallon bucket	Lab Storage
Methanol	4 - 55 gallon drums	Warehouse Yard/Process/Lab
Isopropyl Alcohol	2 – 55 gallon drums	Warehouse Yard/Plat Unit/Lab
Isopropyl Alcohol	4 – 350 gallon totes	Warehouse Yard/Plat Unit
Perchloroethylene	4 – 55 gallon drums	Warehouse Yard/Plat Unit
Salt	100 – 50# sacks	Warehouse Yard
Salt	15 – 2000# supersacks	Warehouse Yard/Treater Area
Salt	100,000 bulk storage	Boiler Area

Appendix B
TABLE 6.3 Other Materials Stored at the Refinery – continued

PRODUCT	MAXIMUM VOLUME	LOCATION
Neutralizing Amine	2 – 200 gallon totes	Warehouse Yard/Crude
Corrosion Inhibitor	4 - 200 gallon bulk tank	Warehouse Yard/Gas Con/Alky/ CWT
Towerbrom 960	3 - 500 gallon totes	Warehouse Yard/CWT
Oxygen Scavenger	4 – 200 gallon totes	Warehouse Yard/CWT/BH
Antifoulant	2 – 200 gallon totes	Warehouse Yard/Crude
H2S Scavenger	2 – 400 gallon totes	Warehouse Yard/Treater
Amine Solution	2 – 200 gallon totes	Warehouse Yard/SWAATS
Boiler Phosphate	2 – 200 gallon totes	Warehouse Yard/BH
Sulfite	2 – 200 gallon totes	Warehouse Yard/BH
Bleach	4 – 30 gallon drums	Warehouse Yard/CWT
Bromine	2 – 500 gallon totes	Warehouse Yard/CWT
Sulfuric Acid	50,000 lb bulk storage	CWT
Caustic Soda	50,000 lb bulk storage	BH/Treater/Flare
Caustic Soda	21,000 gallons bulk storage	Flare KO Area
Hydrofluoric Acid	50,000 lb bulk storage	Alkylation Unit
Potassium Hydroxide	5 – 300 gallon totes	Warehouse Yard/Alky Unit
Potassium Hydroxide	20 tons bulk storage	Alky Unit/Sats
Potassium Hydroxide	6 – 2000 lb super sacks	Alky Unit/Warehouse Yard
Sodium Carbonate	60 – 55 lb bags	Warehouse Yard/Alky Unit
Anti-Foam	10 gallons	Warehouse Yard/SATS Unit
Methanol	2 – 345 gallon totes	Warehouse Yard/SATS/Fuel Gas
Ammonium Thiosulfate	1 – 300 gallon tote	Sulfur Recovery Unit
Iron Chelate Mixture	2 – 3500 gallon bulk tank	Sulfur Recovery Unit
Merox	12 – 1 gallon Container	Warehouse/Treater Unit
Promoter	2 – 400 lb drum	Flammable Warehouse/FCC Unit
Stabilizing Amine	500 gallon bulk tank	FCC Unit

Appendix B
TABLE 6.3 Other Materials Stored at the Refinery - continued

PRODUCT	MAXIMUM VOLUME	LOCATION
Xylene (Red Dye)	2 – 330 gallon bulk tank	Warehouse Yard/Loading Rack
Lubricity	4500 gallon bulk tank	Loading Rack/East of T-226
Ethyl Mercaptan	2,000 lb bulk tank	Loading Rack/Rail Road Rack
Pour Point Disperssant	2000 gallon bulk tank	Tank Farm east of T-226
Anti-Static	2 - 500 gallon totes	Warehouse Yard/Tank Farm
DGS-105	3 - 500 gallon totes	Warehouse Yard/Tank Farm
Zep Soap	10 - 55 gallon drums	Warehouse Yard/Process
Activated Carbon	3000 lbs	Warehouse Yard/Amine
Tri-Sodium Phosphate	35 - 40 lb sacks	Warehouse Yard/Process

Appendix C - Table 1 Ground Water Monitoring Schedule

Table 1
Gallup Refining Company
Ground Water Monitoring Schedule

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
Pilot Effluent	Quarterly (Q)			VOC, DRO extended, GRO, BOD, COD, WQCC Metals
Napis Effluent	Q			Gen Chem, Voc, SVOC(Phenol),DRO extended, GRO,WQCC Metals
AL2 to EP-1	Q			major cations, major anions, VOC, SVOC(Phenol), DRO extended, GRO,WQCC Metals
Influent to AL-1	Q			VOC, BOD, COD, chlorides, DRO extended, GRO, pH, Phenol
Influent to AL-2	Q			VOC, BOD, COD, chlorides, DRO extended, GRO, pH, Phenol
Influent to Evaporation Pond 1	Q			Major cations, major anions, pH, BOD, COD, Chlorides, VOC, SVOC (phenol), DRO extended, GRO, WQCC Metals
NAPI Secondary Containment (3 each)	Q			BTEX, DRO extended, GRO, WQCC Metals or check for fluids
RW-1	Q	X		Measure DTW, DTP
RW-2	Q	X		Measure DTW, DTP
RW-5	Q	X		Measure DTW, DTP
RW-6	Q	X		Measure DTW, DTP
OW-1	Q	X	pH, E.C., DO, ORP, Temp, TDS	Visual check for artesian flow conditons; major cations, major anions, VOC, DRO extended, WQCC Metals
OW-10	Q	X	pH, E.C., DO, ORP, Temp, TDS	Water level measurement of the Sonsela Aquifer water table. Major cations, major anions, VOC, DRO extended, WQCC Metals
OW-13	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-14	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-29	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-30	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC
OW-50	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC, SVOC, WQCC Metals (Total & Dissolved), GRO, DRO Extended, Gen Chem
OW0-52	Q	X	pH, E.C., DO, ORP, Temp, TDS	VOC, SVOC, WQCC Metals (Total & Dissolved), GRO, DRO Extended, Gen Chem

Notes:

The analyte list for EPA Method 8260 must include MTBE.
(a) NAPIS 1, NAPIS 2, NAPIS 3: Detection of product during quarterly monitoring must comply Section II.F.2 (twenty-four Hour Reporting) of NMED Post-Closure Care Permit
(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method). Parameters are subject to change
WQCC Metals include the RCRA 8 metals, must be analyzed as totals and dissolved
Evaporation Pond samples must be collected at the inlet, where waste water flows into the evaporation pond.

Appendix C - Table 1 - Ground water Monitoring Schedule – continued

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
GWM-2	Q	X		Check for water - if water is detected report to OCD & NMED within 24 hours; sample for BTEX + MTBE, GRO, DRO extended, major cations, major anions
GWM-3	Q	X		Check for water - if water is detected report to OCD & NMED within 24 hours; sample for BTEX + MTBE, GRO, DRO extended, major cations, major anions
GWM-1	Q	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
NAPIS -1 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
NAPIS -2 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
NAPIS -3 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
KA-3 (a)	Q	X	pH, E.C., DO, ORP, Temp, TDS	major cations, major anions, BTEX + MTBE, SVOCs, DRO, GRO, WQCC Metals
Boiler Water & Cooling Tower Blow down Inlet to EP-2	Semi-Annual (SA)		pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions
Evaporation Pond 1 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 2 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 3 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 4 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 5 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 6 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 7 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 8 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 9A (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 11 (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Evaporation Pond 12A (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals

NOTES:

The analyte list for EPA Method 8260 must include MTBE.
(a) NAPIS 1, NAPIS 2, NAPIS 3: Detection of product during quarterly monitoring must comply Section II.F.2 (twenty-four Hour Reporting) of NMED Post-Closure Care Permit
(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method). Parameters are subject to change
WQCC Metals include the RCRA 8 metals, must be analyzed as totals and dissolved
Evaporation Pond samples must be collected at the inlet, where waste water flows into the evaporation pond.

Appendix C - Table 1 - Ground water Monitoring Schedule – continued

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
Evaporation Pond 12B (b)	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
Any temporary pond *containing fluid*	SA		pH, E.C., DO, ORP, Temp, TDS	Gen Chem, Voc, SVOC, WQCC 20.6.2.3103 constituents, BOD, COD, E-coli Bacteria, RCRA 8 Metals
BW-1A	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-1B	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-1C	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-2A	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-2B	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-2C	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-3A	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-3B	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
BW-3C	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, SVOC, WQCC metals
Pond 2 Inlet	A			VOC, DRO extended, GRO, BOD, COD, TDS
MW-1	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
MW-4	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
MW-5	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
OW-11	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, WQCC Metals
OW-12	A	X	pH, E.C., DO, ORP, Temp, TDS	VOC
SMW-2	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
SMW-4	A	X	pH, E.C., DO, ORP, Temp, TDS	Major cations, major anions, VOC, DRO extended, GRO, WQCC Metals
PW-2	Every 3 years starting in 2008			VOC, SVOC, WQCC Metals, Cyanide, Nitrates
PW-3	Every 3 years starting in 2008			VOC, SVOC, WQCC Metals, Cyanide, Nitrates

NOTES:

The analyte list for EPA Method 8260 must include MTBE.
(a) NAPIS 1, NAPIS 2, NAPIS 3: Detection of product during quarterly monitoring must comply Section II.F.2 (twenty-four Hour Reporting) of NMED Post-Closure Care Permit
(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method). Parameters are subject to change
WQCC Metals include the RCRA 8 metals, must be analyzed as totals and dissolved
Evaporation Pond samples must be collected at the inlet, where waste water flows into the evaporation pond.

Appendix C - Table 1 - Ground water Monitoring Schedule – continued

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
PW-4	Every 3 years starting in 2007			VOC, SVOC, WQCC Metals, Cyanide, Nitrates
Effluent from OLD API (storm water separator effluent)	Monthly flow rate measurements to NAPIS			Collect monthly flow rate readings from the Old API to the New API separator. If effluent is re-routed to any other location than the NAPIS, NMED/OCD must be contacted to determine whether additional sampling and analysis is required.

Table Notes:

Pilot Effluent - Effluent from the Pilot Gas Station to the Aeration Lagoon

Pond 2 Inlet - Sample collected at the inlet to Evaporation Pond 2 from Evaporation Pond 1
NAPIS Effluent - Effluent leaving the New API Separator

AL-2 to EP-2 - sample collection at the inlet from Aeration Lagoon 2 to Evaporation Pond 1 (influent location into EP-1)

NAPIS 1= (KA-1R); NAPIS 2 = (KA-2R); NAPIS 3 = (KA-3R) - monitor wells position around NAPIS to detect leakage

DO - Dissolved oxygen; ORP - oxygen reduction potential; Temp = temperature; E.C. = electrical or specific conductivity TDS = Total dissolved solids; VOCs = volatile organic compounds - EPA Method 8260, must include MTBE, SVOCs - semi volatile organic compounds - EPA Method 8270, must include phenol, DRO = diesel range organics- EPA Method 8015B (or as modified), GRO = gasoline range organics - EPA Method 8015B (or as modified), BTEX = benzene, toluene, ethylbenzene, xylene, plus Methyl Tertiary-Butyl Ether (MTBE) - EPA Method 8021 + MTBE

DTW = Depth to water; DTP = Depth to product; EP = Evaporation Pond; BW = Boundary Wells

GWM wells - are located around the aeration lagoons to detect leakage

MW = Monitor well; OW = Observation well; RW = Recovery well; PW = Raw water production well

Appendix D – Well Drilling Logs

9 December 2009
AMEC Project No. 9-517-000057

Ms. Michelle Young
Western Refining: Gallup Refinery
Route 3, Box 7
Gallup, NM 87301

Re: Letter Report for Monitoring Well Construction

Dear Ms. Young:

AMEC Earth and Environmental, Inc. (AMEC) is pleased to submit this letter report documenting groundwater monitoring well activities at the Western Refinery facility located near Gallup, New Mexico.

Site Background
The project site is located at the Gallup Refinery located north of I-40. The area to the north of the existing refinery consists of an open area. Access roads run through these open areas in the northeast portion of the property. Previously constructed monitor wells are located throughout the property.

Investigation Activities Conducted
AMEC drilled two (2) groundwater monitor wells (MW-1A, MW-2A) to depths of between 50 and 79 feet using a CME-75 truck mounted drill rig in the northeast corner of the property. A site plan showing the location of the new monitoring wells is attached.

The original two monitor wells (MW-1, MW-2) were abandoned due to difficult subsurface conditions. Two replacement wells were drilled (MW-1A, MW-2A). Soil samples from MW-1 and MW-2 were obtained at several depth intervals and tested for VOC's with a photo ionization detector (PID). Results are shown in Table 1 below.

Table 1
Photo Ionization Detector (PID) Results
Collected on October 1 and 2, 2009

Sample Depth (ft)	MW-1	Sample Depth (ft)	MW-2
60	ND**	5	ND
65	ND	10	ND
70	ND	15	ND
		20	ND
		25	ND
		30	ND
		35	1.1*
		40	1.1
		45	1.1

* Concentration in parts per million (ppm)
** ND = Not detected within limits of PID

Appendix D – Well Drilling Logs

Western Refining
Groundwater Monitoring Wells
Gallup Refinery
AMEC Project No. 9-517-000057
9 December 2009

If you have questions regarding the information contained within this letter report, please do not hesitate to contact us at 505.821.1801. AMEC appreciates the opportunity to provide Phase 2 investigation and reporting services to Vigil and Associates and looks forward to working with you again.

Best Regards,

AMEC Earth and Environmental, Inc.

Jeff Cotter for

Lee J. Mitchell, P.E.
Project Engineer

Ralph E. Crockett, P.E.
Senior Geotechnical Engineer

Copies: Addressee (3)

AMEC Earth & Environmental, Inc.
8519 Jefferson, N.E.
Albuquerque, New Mexico 87113
Telephone: 505/821-1801
Fax: 505/821-7371
www.amec.com

Appendix D – Well Drilling Logs

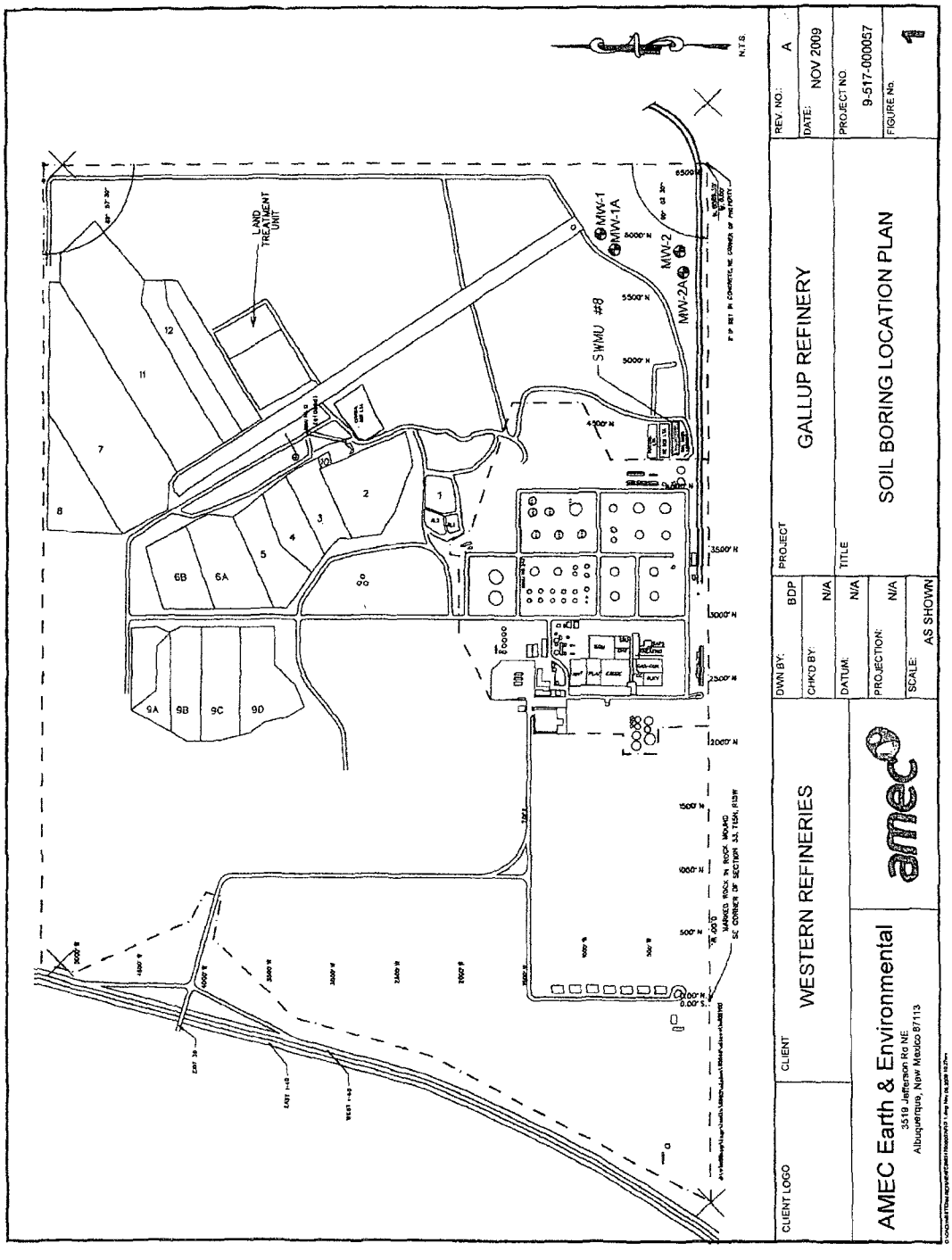
APPENDIX A

SITE PLAN

SOIL BORING LOGS

WELL CONSTRUCTION DIAGRAMS

Appendix D – Well Drilling Logs



Appendix D – Well Drilling Logs

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION — **WELL ID:** OW-50

Project Number: 9-517-05 Task Number: ____ Date: 11/17/09 Time: 12:30
Client: Western Refinery Personnal: J. Cotter
Project Location: Western Refinery - Gallup Weather: Clear 50°F

2. WELL DATA

Casing Diameter: 2" inches Type of Casing: PVC
Screen Diameter: 2" inches (d) Type of Screen: PVC Screen Length: 15
Total Depth of Well from TOC: 63' feet
Depth to Static Water from TOC: 18.20 feet
Depth to Product from TOC: N.A feet
Length of Water Column (h): 44.8 feet Calculated Casing Volume: 7.6 gal (3 to 5 times one well volume)
Purge Volume Calculation (one casing volume = 0.041d²h):

23 9915

Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft

3. PURGE DATA

Purge Method: Moonsoon Pump
Materials: Pump/Bailer ____
Materials: Rope/Tubing ____
Was well purged dry? ☐ Yes ☐ No Pumping Rate: ____ gal/min

Equipment Model(s)
1. ____
2. ____

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: ORP	Comments
12:56	3	7.79	12.47	638		0.56		-22.9	Purge Start
13:03	7	7.82	12.50	661		0.06		-23.3	Clear
13:08	12	7.83	12.50	668		0.04		-22.2	mostly Clear
13:18	22	7.84	12.50	674		0.03		-21.3	Clear
13:19	23	7.84	12.50	674		0.03		-21.3	Sample End.

4. SAMPLING DATA

Method(s): Moonsoon + Flow Cell
Materials: Pump/Bailer —
Materials: Tubing/Rope — Poly Tubing
Depth to Water at Time of Sampling: ____ Field Filtered? ☑ Yes ☐ No
Sample ID: OW-50 Sample Time: 13:20 # of Containers: 8
Duplicate Sample Collected? ☐ Yes ☑ No ID:

Analyses Requested:
6010 C
8260 B
8270
8015B – GRO
8015B – DRO

5. COMMENTS ____

Appendix D – Well Drilling Logs

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION — **WELL ID:** OW-52

Project Number: 9-517-057 Task Number: ____ Date: 11/17/09 Time: 11:17
Client: Western Refinery Personnel: J. Cotter
Project Location: Gallup, NM Weather: Clear 40°F

2. WELL DATA

Casing Diameter: 2" inches Type of Casing: PVC
Screen Diameter: 2" inches (d) Type of Screen: Sch 10 PVC Screen Length: 15'
Total Depth of Well from TOC: 79' feet
Depth to Static Water from TOC: 16.75 feet
Depth to Product from TOC: NA feet
Length of Water Column (h): 62.25 feet Calculated Casing Volume: 10 gal (3 to 5 times one well volume)
Purge Volume Calculation (one casing volume = 0.041d²h): 3 9 9 15

Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft

3. PURGE DATA

Purge Method: Monsoon Pump
Materials: Pump/Bailer ____
Materials: Rope/Tubing ____
Was well purged dry? ☐ Yes ☐ No Pumping Rate: 1.5 gal/min

Equipment Model(s)
1. ____
2. ____

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: ORP	Comments	
11:45	5	7.97	12.24	665		0.20		-87.5	Muddy	START
11:55	15	7.89	12.21	667		0.05		-60.6	Clear	
12:05	25	7.84	12.19	671		0.03		-58.1	Clear	
12:10	30	7.83	12.19	674				-56.5	"	End Purge

4. SAMPLING DATA

Method(s): Monsoon + Flow Cell
Materials: Pump/Bailer ____
Materials: Tubing/Rope POLY - Tubing
Depth to Water at Time of Sampling: ____ Field Filtered? ☑ Yes ☐ No
Sample ID: OW-52 Sample Time: 12:20 # of Containers: 8
Duplicate Sample Collected? ☐ Yes ☑ No ID:

Analyses Requested:
8260B - VOCs
8270 - SVOCs
RCRA Metals 6010
DRO 8015

5. COMMENTS 1L AMBER = 8270 SVOCS

P:\SOPs\Final_WBU_SOPs\SOP - Groundwater Sampling_v_1.0.doc

Appendix D – Well Drilling Logs

Chain-of-Custody Record

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

Client: Western Refining-Gallup

Mailing Address: Route 3, Box 7
Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other ________

☐ EDD (Type) ________

Turn-Around Time:
☑ Standard ☐ Rush ________

Project Name: New Monitoring Wells

Project #:

Project Manager: Gaurav Rajen

Sampler:

On Ice: ☐ Yes ☐ No

Sample Temperature:

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	6010C RCRA Metals	8015B GRO/DRO			Air Bubbles (Y or N)
11/17/09	12:20	H_2O	OW-50	[illegible]	HNO_3											X	X	X	X			
11/17/09	13:20	H_2O	OW-53	[illegible]	[illegible]											X	X	X	X			

Date	Time	Relinquished by	Received by	Date	Time
11/17/09	1600	[signature]	[illegible]	[illegible]	

Remarks: Bill to Western Refining-Gallup per Gaurav Rajen

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

Appendix D – Well Drilling Logs

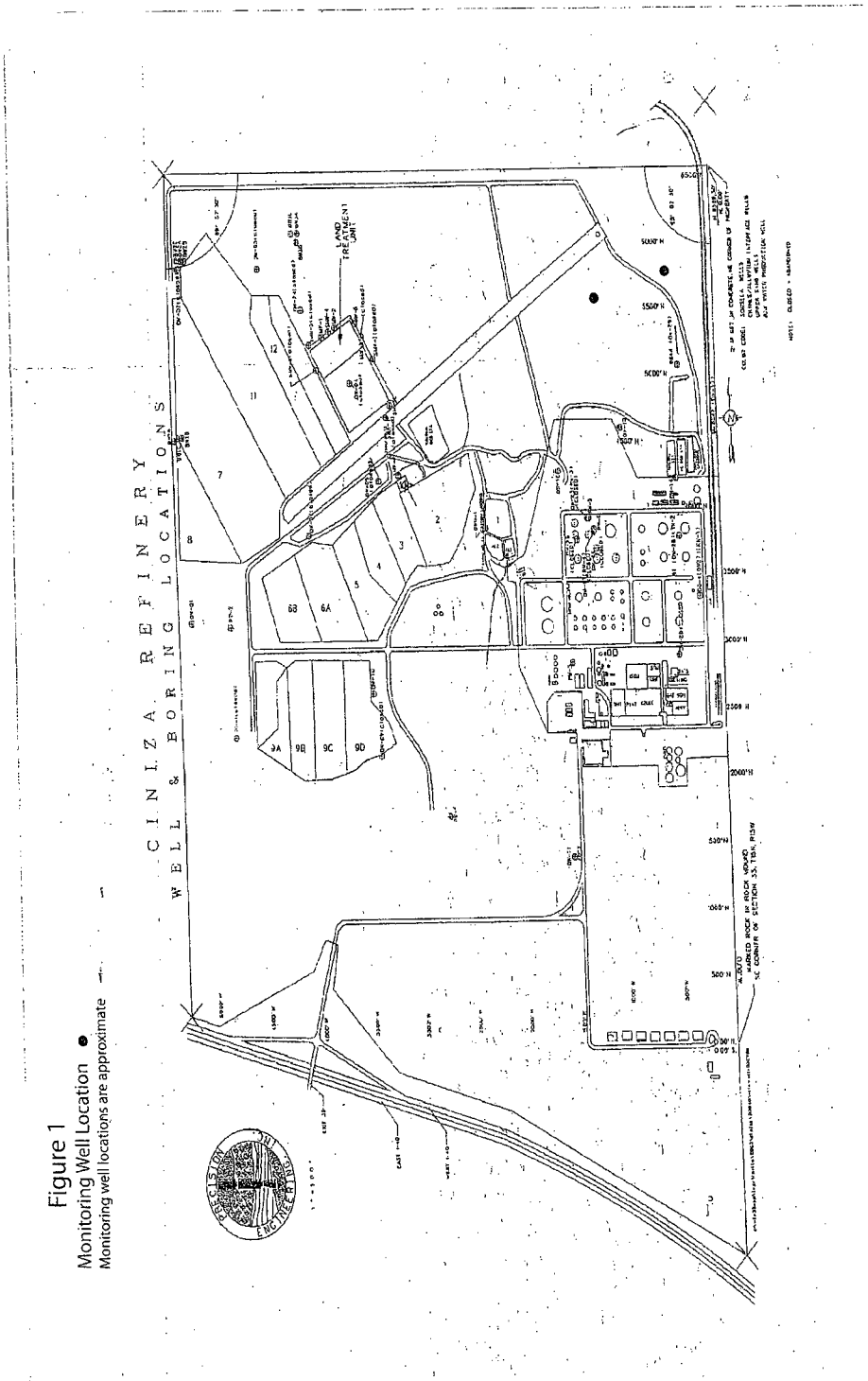
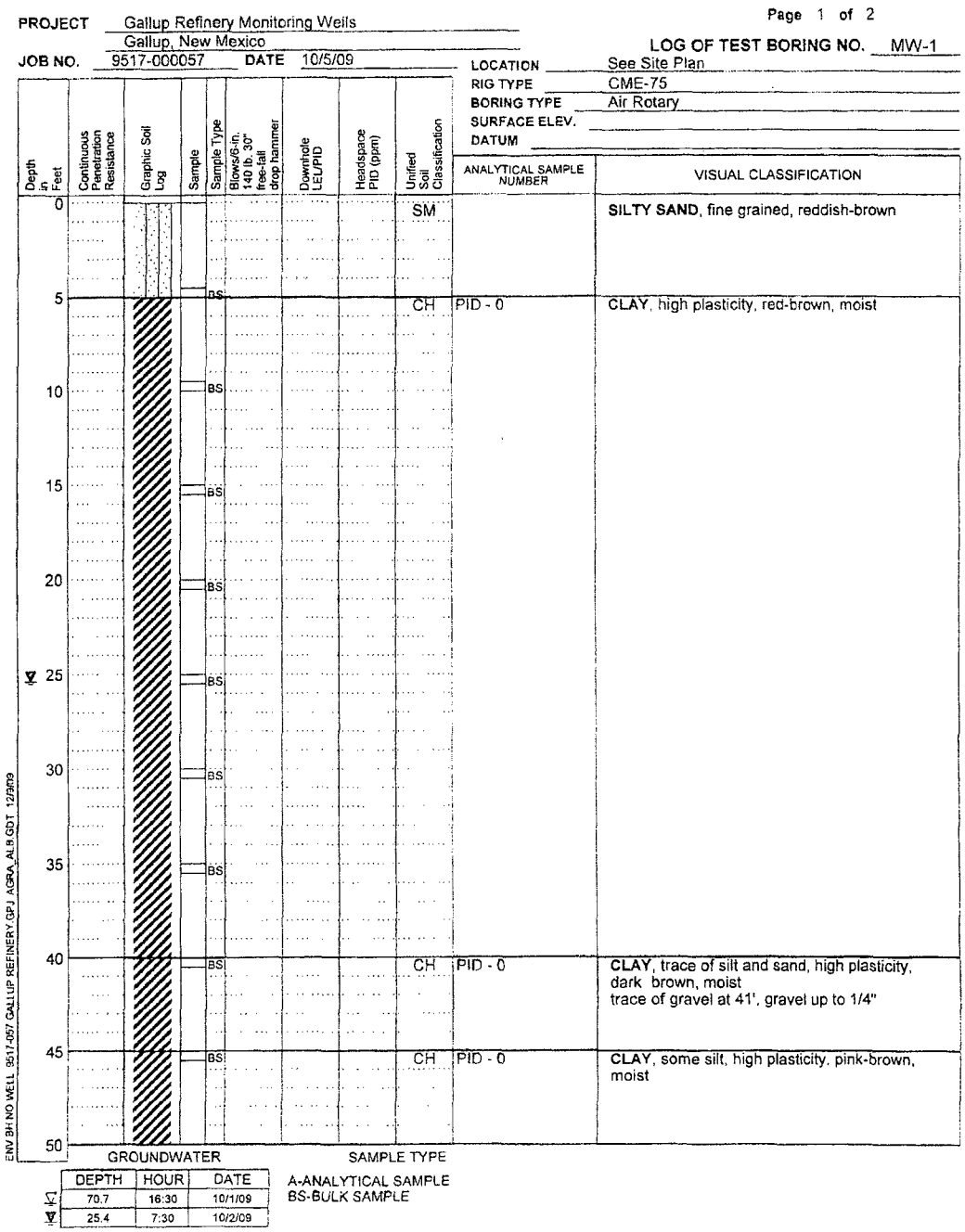


Figure 1
Monitoring Well Location ●
Monitoring well locations are approximate

Appendix D – Well Drilling Logs



PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico
JOB NO. 9517-000057 DATE 10/5/09

Page 1 of 2

LOG OF TEST BORING NO. MW-1

LOCATION See Site Plan
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		**SILTY SAND**, fine grained, reddish-brown
5				BS				CH	PID - 0	**CLAY**, high plasticity, red-brown, moist
10				BS						
15				BS						
20				BS						
▽ 25				BS						
30				BS						
35				BS						
40				BS				CH	PID - 0	**CLAY**, trace of silt and sand, high plasticity, dark brown, moist trace of gravel at 41', gravel up to 1/4"
45				BS				CH	PID - 0	**CLAY**, some silt, high plasticity, pink-brown, moist
50										

ENV BH NO WELL 9517-057 GALLUP REFINERY.GPJ AGRA_ALB.GDT 12/8/09

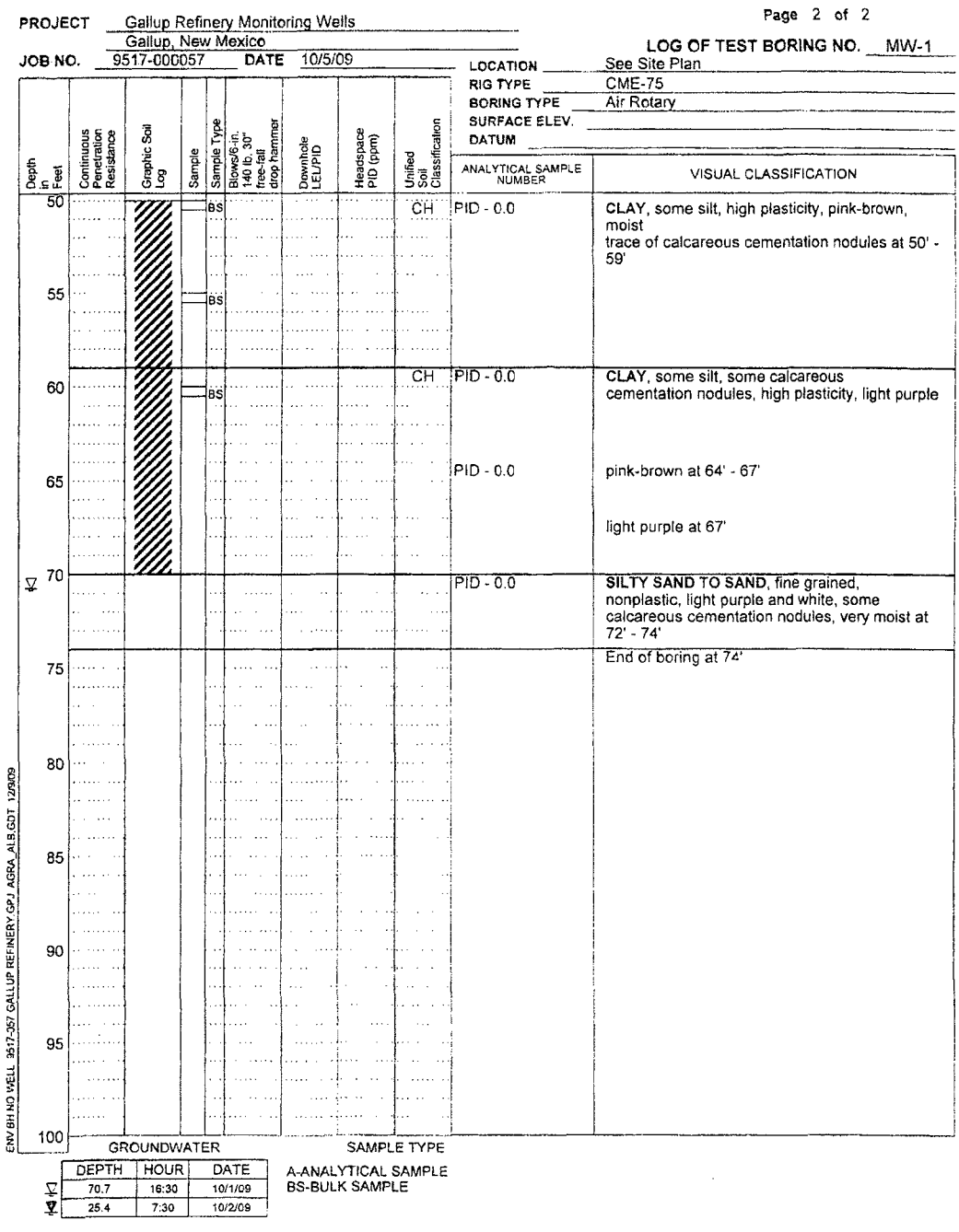
GROUNDWATER

	DEPTH	HOUR	DATE
▽	70.7	16:30	10/1/09
▽	25.4	7:30	10/2/09

SAMPLE TYPE

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

Appendix D – Well Drilling Logs



Page 2 of 2

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico
JOB NO. 9517-000057 DATE 10/5/09

LOG OF TEST BORING NO. MW-1
LOCATION See Site Plan
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50				BS				CH	PID - 0.0	**CLAY**, some silt, high plasticity, pink-brown, moist trace of calcareous cementation nodules at 50' - 59'
55				BS						
60				BS				CH	PID - 0.0	**CLAY**, some silt, some calcareous cementation nodules, high plasticity, light purple
65									PID - 0.0	pink-brown at 64' - 67' light purple at 67'
▽ 70									PID - 0.0	**SILTY SAND TO SAND**, fine grained, nonplastic, light purple and white, some calcareous cementation nodules, very moist at 72' - 74'
75										End of boring at 74'
80										
85										
90										
95										
100										

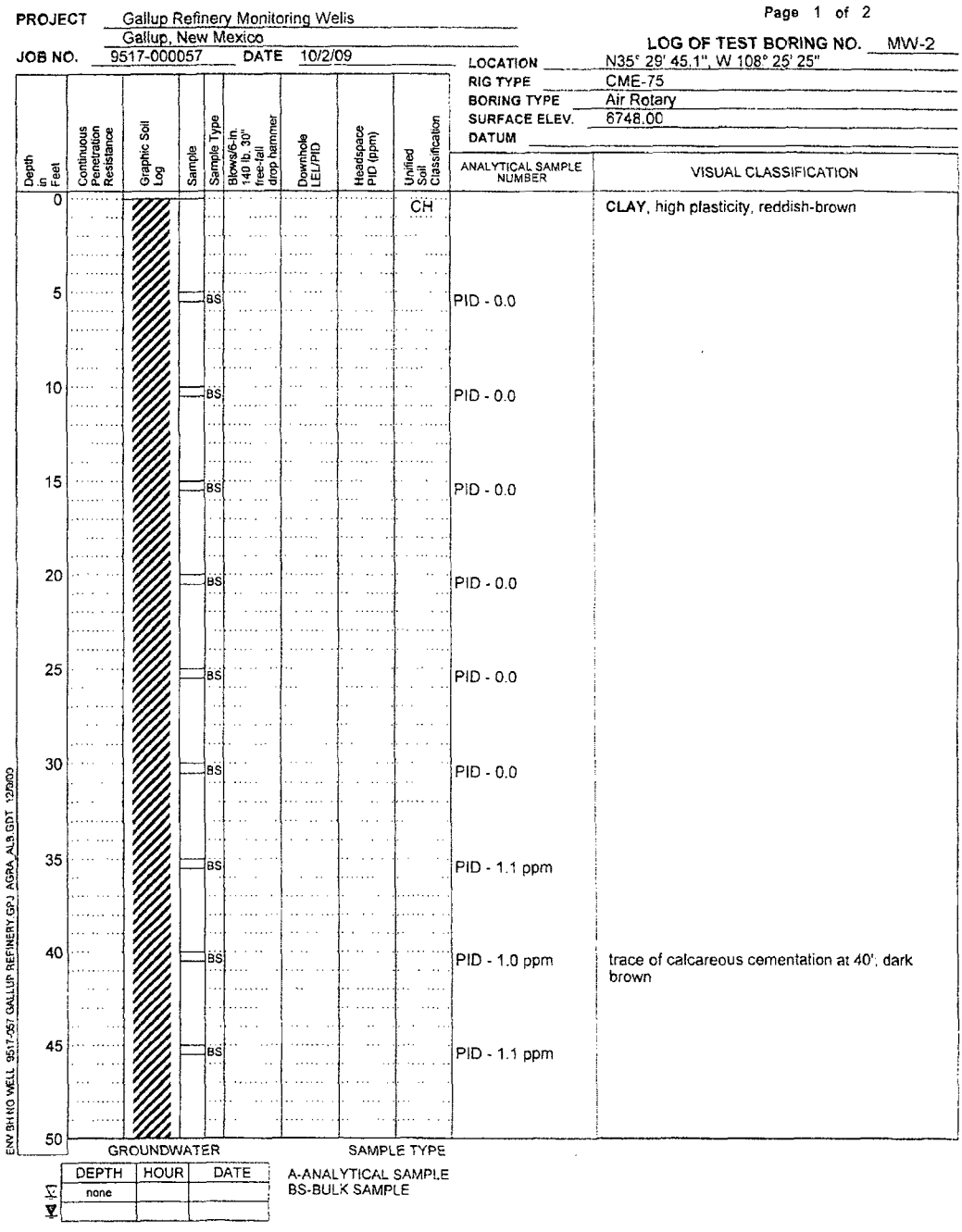
ENV BH NO WELL 9517-057 GALLUP REFINERY.GPJ AGRA_ALB.GDT 12/9/09

GROUNDWATER

	DEPTH	HOUR	DATE
▽	70.7	16:30	10/1/09
▼	25.4	7:30	10/2/09

SAMPLE TYPE
A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

Appendix D – Well Drilling Logs



PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico
JOB NO. 9517-000057 DATE 10/2/09

Page 1 of 2

LOG OF TEST BORING NO. MW-2

LOCATION N35° 29' 45.1", W 108° 25' 25"
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV. 6748.00
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								CH		**CLAY**, high plasticity, reddish-brown
5				BS					PID - 0.0	
10				BS					PID - 0.0	
15				BS					PID - 0.0	
20				BS					PID - 0.0	
25				BS					PID - 0.0	
30				BS					PID - 0.0	
35				BS					PID - 1.1 ppm	
40				BS					PID - 1.0 ppm	trace of calcareous cementation at 40', dark brown
45				BS					PID - 1.1 ppm	
50										

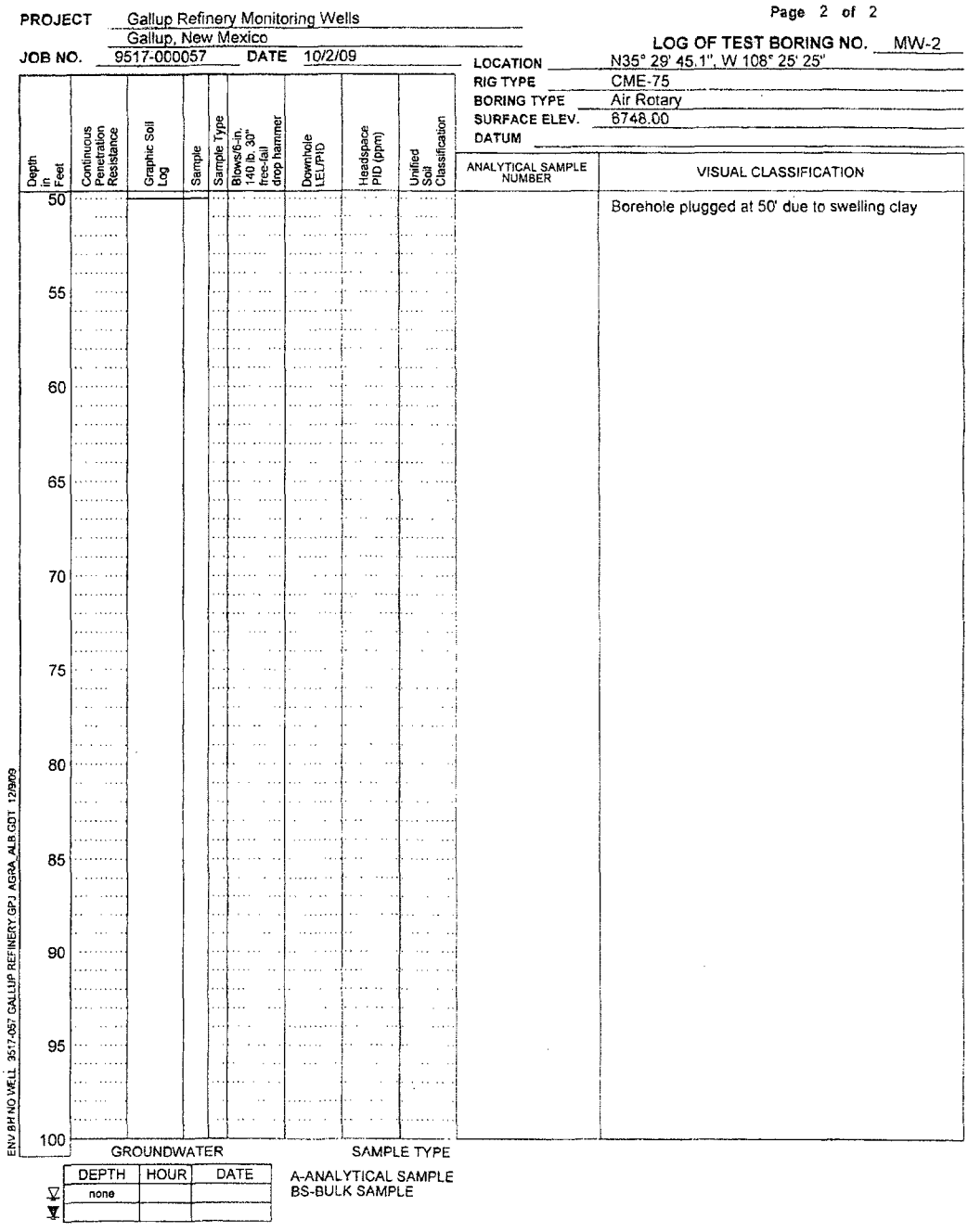
GROUNDWATER

	DEPTH	HOUR	DATE
▽	none		
▼			

SAMPLE TYPE
A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV BH NO WELL 9517-057 GALLUP REFINERY.GPJ AGRA_ALB.GDT 12/9/09

Appendix D – Well Drilling Logs



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PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

JOB NO. 9517-000057 DATE 10/2/09

LOG OF TEST BORING NO. MW-2

LOCATION N35° 29' 45.1", W 108° 25' 25"
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV. 6748.00
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50										Borehole plugged at 50' due to swelling clay
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

ENV BH NO WELL 3517-057 GALLUP REFINERY GPJ AGRA_ALB.GDT 12/9/09

GROUNDWATER

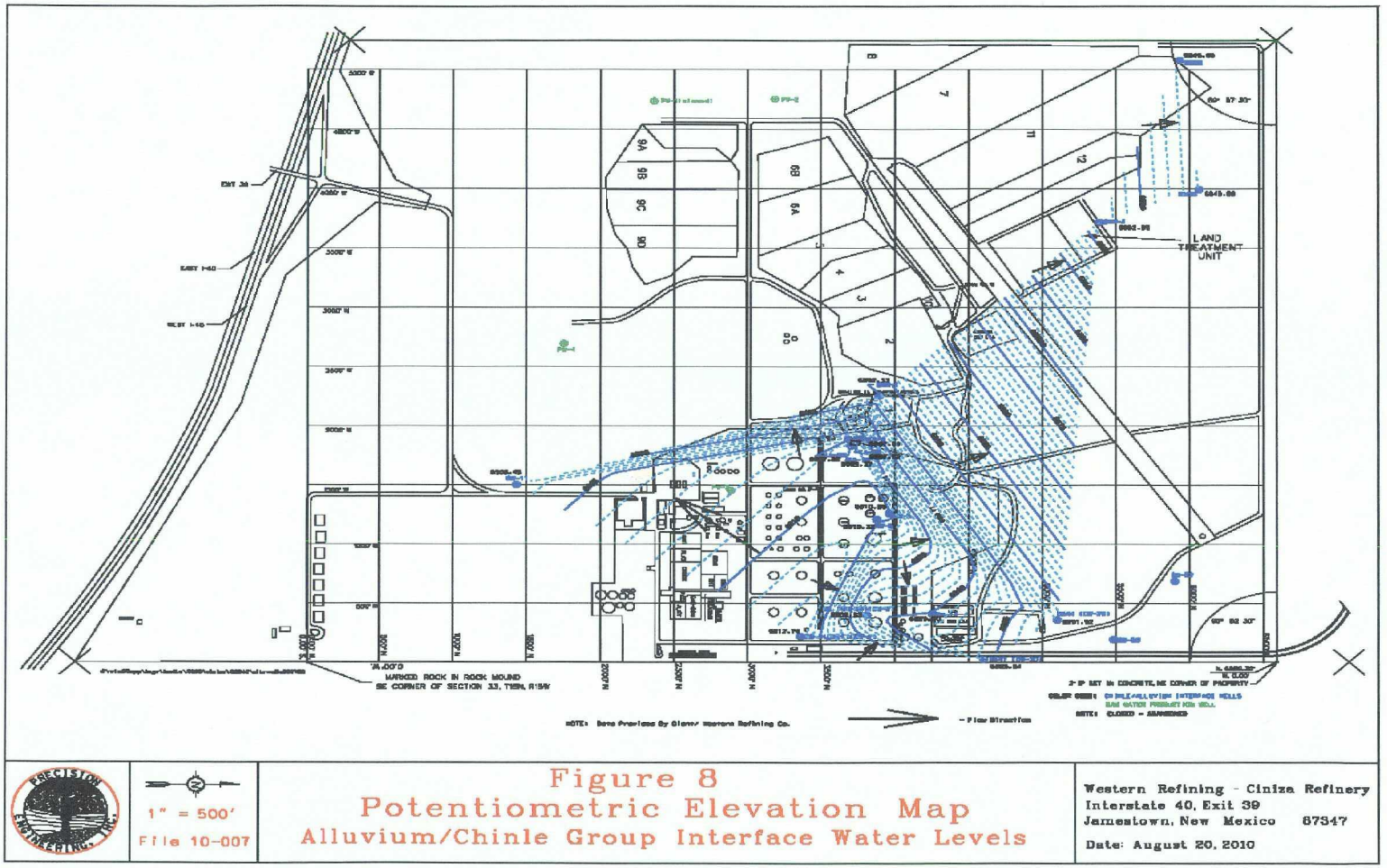
	DEPTH	HOUR	DATE
▽	none		
▼			

SAMPLE TYPE
A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

Appendix E – Stratigraphy Map

Appendix E – Stratigraphy Map

Appendix F – Potentiometric Map



HAZARDOUS WASTE
Contingency Plan

WESTERN REFINING- SOUTHWEST
(GALLUP REFINERY)

The Hazardous Waste Contingency Plan "the plan" is designed to be a stand alone plan that can be initiated independently for small incidents or may be activated under the Facility Response Plan (FRP), the Spill Prevention Control and Countermeasures Plan (SPCC), the Stormwater Pollution Prevention Plan (SWPPP), or the Emergency Operation Center (EOC), Emergency Response Action Plan for large incidents as required depending on the severity. The plan should be reviewed annually and amended whenever changes occur that will significantly affect the ability of this facility to respond to an emergency situation. These revisions should include a review of the regulations, if the plan fails in an emergency, if this facility changes in a way that materially increases the potential for an emergency or changes in the response necessary in an emergency, if the list of emergency coordinators changes or if the list of emergency equipment changes. Emergency Response Drills are addressed in the plans mentioned above.

Plan Updated: 033111
Prepared By: Beck Larsen

Table of Contents

1. General Facility Information

Facility Name-	Western Refining- Southwest (Gallup Refinery)
Facility Owner / Operator-	Western Refining- Southwest
Physical Address-	I-40 Exit 39 Jamestown, NM 87347
Mailing Address-	Rt 3 Box 7, Gallup, NM 87301
County-	McKinley
Facility Telephone-	(505) 722-3833
Facility Fax-	(505) 722-0210
EPA Identification Number-	NMD000333211
SIC / NAICS Code-	2911 / 324110

2. Purpose and Scope of Plan

Although this facility is designed, constructed, maintained and operated in a manner that minimizes the possibility for emergency incidents such as fire, explosions and any unplanned sudden or non-sudden release of hazardous material, hazardous waste or hazardous waste constituents to air, soil or surface water, this plan is designed to minimize hazards to human health and the environment in the unlikely event of such incidents. This plan is designed to satisfy the requirements of all applicable State Hazardous Waste Regulations (NMAC 20.4.1.300, NMAC 20.4.1.600) and Federal Hazardous Waste Regulations (40 CFR 262.34(a)(4) and 40 CFR 265.50-265.56). This plan shall be used in conjunction with either of the Facility Response Plan (FRP), the Emergency Operation Center (EOC) procedures, or the Spill Prevention Control and Countermeasures (SPCC), Stormwater Pollution or the VOC/ Good Housekeeping Plans.

3. Overview of Facility Operations

Gallup Refinery is a crude oil refining facility located in McKinley County, New Mexico at Township 15 North, Range 15 West, Sections 28 and 33, the northern one-third of Section 4 of the New Mexico coordinate system. Gallup Refinery's mailing address is: Route 3 Box 7, Gallup, NM 87301 and the physical address is Interstate 40 (I-40), Exit 39, Jamestown, NM. 87347. Gallup Refinery is just north of I-40 and approximately 17 miles east of Gallup, NM.

Gallup Refinery (formerly known as Ciniza) originally owned by El Paso Natural Gas Company was constructed in 1957. The refinery was purchased by Shell Oil Company and operated by Shell until 1982. Ciniza was then purchased and operated by Giant Industries Arizona, Incorporated until 2007. Western Refining Southwest purchased Ciniza Refinery (now known as Gallup Refinery) in May 2007. Gallup Refinery is operated by Western Refining Southwest.

The Gallup Refinery is a crude oil refining facility. The refinery receives and processes crude oil and other feedstock, and then produces various finished products. These include propane, butane, naphtha, unleaded gasoline, diesel (low sulfur and ultra-low sulfur), kerosene, and residual fuel.

Built in the 1950's, the Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown, New Mexico, 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope of the continental divide.

The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Pilot Travel Center (formerly Giant) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than 7 inches per year.

The refinery primarily receives crude oil via two 6 inch diameter pipelines; two pipelines from the Four Corners Area enter the refinery property from the north. In addition, the refinery also receives natural gasoline feed stocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Conoco gas plant. Crude oil and other products also arrive at the site via railroad cars. These feed stocks are then stored in tanks until refined into products.

The refinery incorporates various processing units that refine crude oil and natural gasoline into finished products. These units are briefly described as follows.

- The Crude Distillation Unit separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residuals.
- The Fluidized Catalytic Cracking Unit (FCCU) dissociates long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.
- The Alkylation Unit combines specific types of hydrocarbon molecules into a high octane gasoline blending component.
- The Reforming Unit breaks up and reforms low octane naphtha molecules to form high octane naphtha.
- The Hydrotreating Unit removes undesirable sulfur and nitrogen compounds from intermediate feed stocks, and also saturates the feeds tocks with hydrogen to make diesel fuel.
- Additional Treater Units remove impurities from various intermediate and blending feed stocks to produce finished products that comply with sales specifications.
- The Isomerization Unit converts low octane hydrocarbon molecules into high octane molecules.
- A set of Acid Gas Treating and Sulfur Recovery Units convert and recover various sulfur compounds from other processing units and then produce either Ammonium Thiosulfate or a solid elemental sulfur byproduct.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel. In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feeds tocks, finished products, chemicals, and water. These tanks are all located aboveground and range in size from 80,000 barrels to less than a 1,000 barrels.

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units. A railroad spur track and a railcar loading rack are used to transfer feed-stocks and products from refinery storage tanks into and out of railcars. Several tank truck loading racks are used at the refinery to load out finished products and also may receive crude oil, other feed stocks, additives, and chemicals. Gasoline and Diesel is delivered to the Pilot Center via tanker truck.

Western Refining- Southwest (Gallup, NM) is a generator of both non-hazardous and hazardous waste that is under the "<90 day" status; therefore, a Hazardous Waste RCRA Permit is not required. Western Refining- Southwest (Gallup, NM) potentially generates approximately two hundred ninety (290) tons of hazardous waste annually as based on the 2007 Annual Hazardous Waste Report. Based on this annual generation of hazardous waste, Western Refining- Southwest (Gallup, NM) is classified as a Large Quantity Generator (LQG). Various activities involving container storage of hazardous waste are subject to and applied under both State of New Mexico (20NMAC Ch4) and Federal (40CFR Subchapter I) regulations. The "Container and Management Plan" is designated to outline procedures for the handling and management of waste streams generated at the facility. The "Container / Waste Management & VOC Good Housekeeping Plan" or also referred to as the "Plan", specifically emphasizes the handling and management of drums and various size containers used specifically to store hazardous waste in order to maintain compliance with the regulatory requirements.

A firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vacuum truck. The vacuum truck pumps the oily water into a process sewer leading to the New API Separator (NAPIS).

4. WASTE and PROCESS GENERATING WASTE

In general, drums and containers are used to store hazardous waste. Waste is generated in several areas throughout the facility. These waste streams may be solvents or paint-related waste from painting and clean-up operations, oil contaminated debris (such as oily rags or absorbent pads generated from spill cleanup), laboratory waste, API Separator or sewer sludge, and maintenance shop waste.

As hazardous wastes are generated, drums and containers are used to store this material at or near the point of generation, in hazardous waste satellite accumulation locations. All satellite accumulation points are subject to specific management requirements such as labeling, inspection and accumulation time as specified. When all containers at these accumulation points are filled, they MUST be transported to the "Less Than 90 Day" Storage within the allowable three (3) day period.

WASTE HANDLING AND DISPOSAL

Anyone who generates a solid waste (solid or gas) is required to determine whether the waste is hazardous. This "Process" is known as making a "Hazardous Waste Determination". This determination can be very complex and SHOULD BE MADE officially by the Environmental Department. Whenever a new waste stream is generated or if the

contents of the waste vary from what is routinely managed, then Environmental Manager or the Environmental Department MUST be notified as soon as possible in order to provide a proper waste determination. However, **the person or persons generating the waste WILL INDICATE the appropriate contents on the container prior to the Environmental Department notification**. This labeling WILL be made legibly on the container with a permanent marking device.

All waste generated at Western Refining- Southwest (Gallup, NM) **MUST be properly managed**; i.e., identified, handled, and disposed. Improper identification, handling, and disposal may result in injuries, fires, or explosions that could lead to fines or to possible imprisonment. This section will detail handling and disposal procedures for each of the typical waste streams that is generated. The following list is not inclusive of all waste generated at the facility; however, **ALL Waste MUST be treated in the same manor of handling**. **IMPORTANT NOTE**: Even dried paint waste in cans or pails that would normally be considered non-hazardous solid waste, would become liquid hazardous waste if the container lids were unsealed and rain water was allowed to accumulate.

WASTE GENERATION LIST

Lead - Acid Batteries (Alkaline/Ni-Cad)
Spent Oil / Fuel Filters (NHT Filters)
Used Oil
Hydraulic Oil
Activated Carbon (VOC) Canister (55 gallon drums / 1000 #)
API Separator (Wastewater Treatment) Sludge
Dissolved Air Floatation (DAF) Sludge
Process Sewer Sludge
Spent Hydrotreating Catalyst
Tank Bottoms and Residue
Hydrocarbon Contaminated (TPH) Soil
Empty Drums and Containers
Parts Washer
General Refuse / Trash
Wooden Pallets
Treated Wood
Scrap Metal
Tires and Miscellaneous Scrap Rubber
Welding articles, rods, & miscellaneous debris
Antifreeze (Ethylene Glycol)
Fluorescent Light Bulbs and Ballast
Laboratory (Organic/Inorganic) Waste
Waste paint / thinner
Empty Paint /Thinner Cans, Brushes, and Paint Related Material

5. Incident Commander (IC), Emergency Response Coordinator, or Alternate

The refinery is operated as a 24 hour, seven day per week operation. Therefore, there are always one or more employees either on the premises at any one time. During non-standard work days, holidays, etc, environmental personnel are also on-call to respond to an emergency by coordinating all emergency response measures. The duties and responsibilities for emergency response are covered in Section 9 of

this plan.

The Incident Commander (IC), Qualified Individual (QI), Emergency Response Coordinator, or Alternate has full authority to commit the necessary resources needed to respond to emergencies at this facility and to direct other trained employees to assist in the implementation of this contingency plan. A list of Emergency Notification Procedures and Phone List, Qualified Individual (QI) personnel, Emergency Response Personnel and Coordinator(s), Spill Response Team members (if designated) and first aid specialists (if designated), and Agency Response Notifications is included in **Appendix A**. A list of the available emergency equipment, its location and capabilities is included in **Appendix B**.

6. Coordinated Emergency Services with Off-Site Emergency Responders

FEDERAL AGENCIES-

o	National Response Center (NRC) (preferred method)	www.nrc.uscg.mil (Immediate Notification)
	(via telephone)	(800) 424-8802
o	Federal On-Scene Coordinator (OSC)	(214) 665-6489
o	EPA (Region VI)	(866) 372-7745
	(Don Smith)	(214) 665-2222
o	OSHA Regional Office	(505)248-5302

STATE AGENCIES-

o	New Mexico 24-hour Incident Reporting Line	(505) 863-3839,X-2003
o	New Mexico State Police	(505) 722-9353 / **911**
o	NM State Emergency Response Commission (SERC)	(505) 827-9126
o	NMED (HWB) (Emergency Coordinator)	(866) 476-6026
o	Oil Conservation Division (OCD)(if required)	(505) 334-6178

LOCAL /COUNTY AGENCIES-

o	Local Emergency Planning Committee (LEPC)	**911**
o	McKinley County Emer Mgmt	(505) 863-1437 or (505) 863-3839

☐ This facility is not within an established fire protection district. We have developed our own fire protection and prevention plan based on the Uniform Fire Code, the National Fire Code, the Uniform Building Code and 29 CFR Chapter XVII, part 1910, subpart L, Fire Protection. The facility has its own fire department including fire truck and trained personnel that could react to most minor incidents.

OUTSIDE CONTRACTORS / OTHER INFORMATION -

o	Fort Wingate/ Thoreau Fire /Ambulance Department	(505) 488-5261
o	City of Gallup- 24 Hour Emergency	(505) 863-1200
o	Gallup Fire / Ambulance Department	**911**
o	Med Star Ambulance	(505) 722-7746
o	Rehoboth McKinley County Hospital (RMCH)	(505) 863-7000
o	Gallup Med Flight	(505) 726-0053
o	H2O OSRO, Inc	(866) 426-6770

	(Carl Oskins-Cell)	(214) 794-0119
○ Rinchem Company		(505) 345-3655
○ Riley Industrial Services		(505) 327-4947
○ Envirotech, Inc		(505) 632-0615
WESTERN REFINING, INC-		(915) 775-3455
○ Ann Allen	(Office)	(915) 534-1480
	(Cell)	(915) 491-1562

- ○ Reporting must include:
  - Name and telephone number of person reporting incident;
  - Name and address of facility;
  - Time and type of incident;
  - Name and quantity of material(s) involved, to the extent known;
  - Extent of injuries, if any;
  - Possible hazards to human health or environment outside the facility.

Take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread:

- Establish the objectives and priorities for response to the incident:
- Determine mitigation actions;
- Identify resources required for response;
- Mobilize those resources;

Name of Spill Response / Emergency Response Contractors (Appendix C)

Contractor	Phone
<u>Oil Spill Response Organization (OSRO):</u>	
H2O OSRO	(866) 426-6770
PO Box 2638	(505) 751-1447
Ranchos de Taos, NM 87557	
Contact: Carl Oskins	
<u>Oil Spill Containment, Cleanup Equipment and Supplies:</u>	
Elastec/American Marine	(407) 636-5783
P. O. Box 940, Cocoa, FL 32922	
Contact: Jeff Pierce	
<u>Spill Response Cleanup Personnel, Equipment and/or Waste Oil and Debris Removal:</u>	
H2O Environmental	(702) 396-4148
4280 N. Pecos Rd.	
Las Vegas, NV 89115	
Rinchem Company, Albuquerque, NM	(505) 345-3655
Riley Industrial Services, Farmington, NM	(505) 327-4947

7. Implementation Plans

The facility's Evacuation, Immediate Action, Disposal, Containment and Drainage, and Disposal Plans are included in **Appendix C.**

8. Location of 90-day and Satellite Accumulation Areas

The facility has two designated ninety (90) day storage areas. The primary ninety (90) day Storage Accumulation Area is located near the stormwater diversion tanks (T-27,28,35). This area has a concrete berm and slab that is located within another earthen dike that contains a stormwater diversion tanks (T-27,28,35). An alternate ninety (90) day Storage Accumulation Area is located at the Bundle Cleaning Pad. Drums of Hazardous Waste may be stored temporarily at this location prior to moving to the primarily ninety (90) day Storage Accumulation Area. Western Refining (Gallup Refinery) operates without a RCRA Permit and is under Interim Status. Since the facility is operating without a RCRA Permit, all Hazardous Waste MUST be shipped offsite within the ninety (90) day period as specified in accordance with the Code of Federal Regulations (40CFR262.34)

Refer to the Facility Response Plan (FRP) or the Emergency Operation Center (EOC) for further contact information as required. . Facility diagrams with accumulation/storage areas annotated may be included in **Appendix F.**

9. Emergency Procedures and Responsibilities

Incident Commander (IC), Emergency Coordinator, or alternate:

- Be onsite or on-call at all times to coordinate emergency response activities;
- Be thoroughly familiar with this contingency plan, the operations and activities occurring at this facility, the physical layout of this facility, the location and characteristics of wastes generated, stored and/or managed onsite, and the location of all records necessary to implement this plan;
- In an imminent or actual emergency, immediately activate internal facility alarms or communications systems to alert facility personnel of the emergency;
- Immediately notify spill response contractor with response roles as identified in **Section 6** (pg 6) or **Appendix A** (pg 12) of the plan.
- Immediately notify state and local emergency response agencies with response roles as identified in this plan;
- Immediately identify the biological, chemical and physical properties of any released material, the source of the release, the amount released, and the areal extent of the material;
- Immediately assess possible direct and indirect hazards to human health and the environment that may result from the incident and identify threatened resources and receptors;
- Determine if the incident could threaten human health or the environment outside the facility and if evacuation of local areas outside of the facility is required;
- Notify appropriate federal, state and local emergency reporting agencies:
- Stop processes and operations as necessary using the following criteria and procedures:
    - Remove or isolate waste containers.
    - If facility operations cease, monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes and other equipment;
    - Immediately after an emergency, provide cleanup, treatment, storage and/or disposal of

recovered waste, contaminated soil or surface water, and other material that results from the incident by:

- Ensure all wastes are managed and disposed of in accordance with federal, state and local requirements;
- Ensure that no waste incompatible with the released material is processed until cleanup procedures are completed;
- Ensure that all emergency equipment is cleaned and fit for its intended use before operations are resumed;
- Coordinate with federal, state and/or local regulatory agencies to determine that appropriate response actions have been successfully completed and terminate emergency response;
- Provide details of the incident to the Owner/Operator and notify them when emergency response has terminated and that all emergency equipment is ready for use;

Owner/Operator Responsibilities:

- Notify all Federal, State, and local authorities that the facility has implemented the contingency plan and is in compliance with the requirements of the plan before operations are resumed;
- Record the time, date and details of the incident in the facility files;
- Submit a written report to the New Mexico Environmental Department (Hazardous Waste Bureau) and Oil Conservation Division (OCD) within 15 days of the incident that includes:
    - Name, address, and telephone number of the owner/operator;
    - Name, address, and telephone number of the facility;
    - Date, time and type of incident;
    - Name and quantity of material(s) involved;
    - Extent of injuries, if any;
    - Assessment of actual or potential hazards to human health or environment, if applicable;

APPENDIX A

Emergency Notification Procedures and Phone List

Emergency Notification Procedures

1. Primary and Secondary Means of Communications

   The primary verbal communications system is through the use of cellular telephones.

2. Notification of Operations Control Center

   Upon initial discovery of a spill, the first responder should notify the Gallup Refinery Main Office.

3. Notification of Qualified Individual

   The Gallup Refinery Main Office personnel will then notify the Qualified Individual who will then notify the required agencies, corporate spill management personnel first responders. The Qualified Individuals and Response Personnel can be reached 24 hours a day at the numbers listed in the Emergency Notification Phone List that follows this page.

4. Information Provided in Initial and Follow Up Notifications

   See the following forms in this section:

   Spill Response Notification Form
   National Response Center Notification Form

Emergency Notification Phone List

Reporter's Name: _____ Date: _____

Facility Name: Western Refining Co. – Gallup Refinery
Owner Name: Western Refining, Inc.

Facility Identification Number: _____

Date and Time of Each NRC Notification:

_____

_____

_____

_____

_____

_____

_____

Qualified Individual Phone Numbers

Qualified Individuals	Phone Number
Mark B. Turri	(505) 722-0202 Office (505) 979-1320 Cell
Thurman B. Larsen	3411 Box Canyon Avenue Gallup, NM 87301 (505) 722-0258 Office (505) 862-1648 Cell (505) 753-3150 Home

Emergency Response Personnel
Facility Response Team

Name	Response Time (Minutes)	Responsibility	Response Training/Date
Mark Turri	30	Command (QI/IC)	Qualified Ind. / 2010
Beck Larsen	60	Command (AQI/IC)	Qualified Ind. / 2010
Teddy Orr	30	Team Leader	OSHA 1910.120 / annual
Milton Barney	45	Crew	OSHA 1910.120 / annual
Cecil Dixon	30	Crew	OSHA 1910.120 / annual
Ervin Emerson	60	Crew	OSHA 1910.120 / annual
Lawrence Griego	30	Crew	OSHA 1910.120 / annual
Arnold Guzman	120	Crew	OSHA 1910.120 / annual
Rodney James	120	Crew	OSHA 1910.120 / annual
Austin Kee	75	Crew	OSHA 1910.120 / annual
Mary Langley	90	Crew	OSHA 1910.120 / annual
Richard Luna	30	Crew	OSHA 1910.120 / annual
Pat Martinez	30	Crew	OSHA 1910.120 / annual
Mack McKinney	30	Crew	OSHA 1910.120 / annual
John Platero	30	Crew	OSHA 1910.120 / annual
Ron Radosevich	30	Crew	OSHA 1910.120 / annual
Zach Ramirez	30	Crew	OSHA 1910.120 / annual
Ed Riege	60	Crew	OSHA 1910.120 / annual
Jodie Sanchez	30	Crew	OSHA 1910.120 / annual
Tyrone Silentman	30	Crew	OSHA 1910.120 / annual
Kerry Vandever	60	Crew	OSHA 1910.120 / annual
Philbert Brown	45	Crew	OSHA 1910.120 / annual

Organization	Y/N	Phone Number

1. Initial Notifications:

National Response Center (NRC)		www.nrc.uscg.mil 800) 424-8802 (202) 267-2675
	Fax:	(202) 267-2181
Federal On-Scene Coordinator (OSC)		(214) 665-6489
EPA Region 6 1445 Ross Ave. (6SF-RP) Dallas, TX 75357-0693 Contact: Don Smith		(866) 372-7745 (214) 655-7112 (214) 665-2222 (214) 665-6489 smithdonaldp@epa.gov
OSHA Regional Office		(505) 248-5302
Western Refining, Inc.		(915) 775-3455
Pipeline, Bisti Station		(505) 632-8006
Pipeline, Hospah Station		(505) 632-8006
Conoco Natural Gas, Wingate		(505) 863-3900
Bureau of Land Management – Rio Puerco		(505) 761-8700
435 Montano Road, NE Albuquerque, NM 87107-4935	Fax	(505) 761-8911
Navajo EPA Contact : Arlene Arthur		(928) 871-7994
Navajo Nation (Crownpoint)		(505) 786-2012
NM Department of Environmental Protection Hazardous Materials Emergency Response		(505) 476-9681
State of New Mexico Environmental Dept. Gallup		(505) 722-4160
Santa Fe - Hotline		(505) 827-9329
New Mexico Department of Public Safety Hazardous Response		(505) 476-9610

NM Oil Conservation Division - Aztec	(505) 334-6178
New Mexico One Call	(800) 321-ALERT (2537)
McKinley County Emergency Management	(505) 863-1437
	(505) 863-3839 x 2003
Local Emergency Planning Committee (LEPC)	911
State Emergency Response Commission (SERC)	(505) 827-9126

2. Qualified Individual and Alternates:

Name: Mark Turri - *Refinery Manager*

Office Phone:	(505) 722-0202
Cell Phone:	(505) 979-1320

Name: Thurman Larsen - *Environmental Engineer*

Office Phone:	(505) 722-0258
Cell Phone:	(505) 862-1749
Home Phone:	(505) 863-3150

3. Company Response Team: (505) 879-9329

All Numbers for Response Team Members are Cell Phone Numbers.

Allen Schult	(505) 870-4345
Andy Green	(505) 870-8410
Bill Chojnacky	(505) 870-3526
Brian Hines	(505) 206-4203
Chris Schumaker	(505) 879-9309
Dan Farris - *Safety Manager*	(505) 721-9070
Danny Diaz	(505) 870-2179
Don Colfack	(505) 879-8125
Don Riley	(505) 862-2307
Ed Riege - *Environmental Manager*	(505) 979-1497
Felix Montoya	(505) 870-2631
Frank Keys	(505) 728-4939
Georgene Martinez	(505) 236-2035
Gina Gutierrez	(505) 320-1752
Guarav Rajen	(505) 879-9340
Guard Shack-Rack	(505) 870-4372
I&E On Call	(505) 728-9740

James Geer		(915) 526-6384
Joel Quinones		(505) 879-2699
Judy Palochak		(505) 280-9141
Kyle Thomas		(505) 879-9312
Larry Jeff		(505) 870-6311
Mack McKinney		(505) 870-4364
Michelle Young - *Purch./Warehouse Mgr.*		(505) 870-4356
Mike Luchetti		(505) 870-1464
Nathan Rodriguez		(505) 728-9119
Off-Sites Explosion Proof		(505) 406-7400
Paul Alonzo		(505) 870-1004
Ralph Castaneda		(505) 728-0219
Reggie Joseph		(505) 870-4360
Rich Eustace		(505) 870-3132
Richard Schmitt		(505) 870-1519
Robbie Bielenberg		(505) 870-4363
Rodney Joseph		(505) 554-9335
Rockelle Stanley		(505) 879-9325
Roger Daily		(505) 879-4253
Roxy Marsh		(505) 728-9118
Shifters Explosion Proof		(505) 406-7488
Teddy Orr - *Safety Inspector*		(505) 870-8258
Terry Larry		(505) 236-6884
Tom Mascarenas		(505) 979-0620
Travis Puckett		(505) 870-3947
Tom Boswell		(505) 906-3785
Tom Urbas		(505) 870-4165
Vaughn Dennerlein		(505) 870-1537
Loretta Morgan		(505) 240-1594
Stephanie Olguin		(505) 879-2920

4. Additional Notifications To Be Used As Needed:

Federal Bureau of Investigation		
Farmington, NM Office		(505) 326-5534
NM State Police		911
Non-Emergency Dispatch		(505) 722-9353
Gallup		(505) 863-9353
	Fax	(505) 722-2043
City of Gallup Police		911
City of Gallup Emergency		(505) 863-1200
City Manager's Office		(505) 726-6108
	Fax	(505) 863-9352
McKinley County Sheriff's Office		911
Contact: Felix Begay		(505) 863-1410
		(505) 722-7205

	Fax	(505) 722-9317
Fire Departments		
Gallup FD/Ambulance		911
Thoreau FD/Ambulance		(505) 862-7770
Ft. Wingate FD		(505) 488-5261
Wingate Cedars FD		(505) 488-5528
Whispering Cedars FD		(505) 488-5528
Ambulance and Emergency Medical Services		911 or
Med Star Ambulance		(505) 722-7746
Santa Fe Railroad Trainmaster		(505) 722-2709
H2O OSRO, Inc.		(866) 426-6770
	Fax	(575) 751-1418
Contact: Carl Oskins	Cell	(214) 794-0119
	Home	(575) 751-3688
Media		
Radio Station KGAK		(505) 863-4444
Radio Station KGLX/FM Q106		(505) 863-9391
Radio Station KXTC		(505) 722-4442
Television Station KOBF		(505) 863-2413
Television Station KRQE		(505) 243-2285
Weather Service (Albuquerque)		(505) 243-0702
New Mexico State Road Conditions		(505) 863-9353
Poison Control		(800) 432-6866
Hospitals		
Rehoboth McKinley County Hospital		
1901 Red Rock Dr., Gallup, NM		(505) 863-7000
Corporate Insurance		
Jacque Cumbie		(480) 585-8762
Aircraft Charter and Rental Services		
Gallup Med Flight		(505) 726-0053
(Aircraft Charter, Ambulance Svc.)		
Gallup Flying Service		(505) 863-6606
Seven Bar Four Corners Aviation		(505) 325-286 or
		(800) 695-4949
7 Bar Flight Patrol		(505) 325-2867

5. Available Contractors with Equipment:

Rinchem Company, Albuquerque, NM	(505) 345-3655
Riley Industrial Services, Farmington, NM	(505) 327-4947

6. Other Available Resources:

Gallup

Best Western Inn, 3009 W. Hwy 66	(505) 722-2221
Holiday Inn, 2915 W. Hwy 66	(505) 863-8122
Budget Inn, 3150 W. Hwy 66	(505) 722-2600
El Rancho Hotel, 1000 E. Hwy 66	(505) 863-9311

Environmental and Ecological Services

D&H Petroleum & Environmental Svcs. (Environmental & Ecological Svcs.) Gallup, NM	(505) 722-7259
Alpha Bioscience Co. (Soil and Water Bioremediation) Farmington, NM	(505) 325-5036
Envirotech, Inc. (Soil and Water Bioremediation) Farmington, NM	(505) 632-0615

Conference and Meeting Rooms

Best Western Inn 3009 W. Hwy 66, Gallup, NM	(505) 722-2221
Convention & Visitors Center 255 E. Hwy 66, Gallup, NM	(505) 863-3841

Wildlife and Volunteer Organizations

Audubon New Mexico Santa Fe, NM	(505) 983-4609

Emergency Response Contractors

Contractor Responsibility	Phone	Response Time	Contract
Oil Spill Response Organization (OSRO):			
H2O OSRO Emergency Response, Oil Spill PO Box 2638 Ranchos de Taos, NM 87557 Contact: Carl Oskins	(866) 426-6770 (505) 751-1447 Cleanup, Waste Management Services (505) 751-1418 fax	5 to 12 hours	
Oil Spill Containment, Cleanup Equipment and Supplies:			
Elastec/American Marine P. O. Box 940, Cocoa, FL 32922 Las Vegas, NV 89115 Contact: Jeff Pierce	(407) 636-5783 (407) 636-5787 fax	24 hours Manufacturer and Supplier	Oil Spill Boom and Skimmer
Spill Response Cleanup Personnel, Equipment and/or Waste Oil and Debris Removal:			
H2O Environmental 4280 N. Pecos Rd Las Vegas, NV 89115	(702) 396-4148 (702) 643-8635 fax	8 – 12 hours Pumping/Vacuum Services Oil Spill Cleanup, Waste Oil/ Debris Removal and Disposal Emergency Response	
Rinchem Company, Albuquerque, NM	(505) 345-3655	3 – 5 hours Chemical Mgmt. Services	
Riley Industrial Services, Farmington, NM	(505) 327-4947	2 hours Vacuum Trucks – one 80 barrel And Seven 50 barrel	

APPENDIX B

Facility Response Equipment List

1. Boom - Operational Status: Operational

   Number: 1000 ft. – 20 ' lengths of 50 ft. sections

   Size: 4" diameter, 6" skirt

   Type and Model: Elastec-American Marine Top Cable Swamp Boom

   Storage Location(s): Spill Response Trailer

2. Skimmers/Pumps- Operational Status: Operational

   Number: 1 2-drum skimmer

   Size: 3 foot length drums

   Storage Location(s): Spill Response Trailer

   Type and Model: Elastec-American Marine drum skimmer

3. Sorbents – Operational Status: None

   Type and Year Purchased: Sorbent Pads, Socks and Blankets

   Amount: 25-55 3" x 42" socks, 2 – 9 cases 16" x 20" pads (200 per case)

   Storage Location(s): Warehouse

   Type and Year Purchased: Complete Stand-alone Spill Kits

   Amount: 2-6 kits

   Storage Location(s): Warehouse

4. Hand Tools – Operational Status: Operational

   Storage Location: Tool Room

5. Communication Equipment (include operating frequency and/or cellular phone numbers):

   Operational Status: Operational

Type and Year:	Quantity:	Storage Location/Number:
2-way Radios	80	Personnel
Cellular Telephones	46	Personnel

6. Fire Fighting and Personnel Protective Equipment – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
Fire Fighting Truck – Pumper 500 gpm /250 gallon Water Tank 50 gallon ARC/AFFF Foam Tank	1	Firehouse
Fire Fighting Truck – Foam Spray 90 gpm Delivery Pump 1000 gallon XL 3% Foam	1	Firehouse
1000 gallon XL 3% Foam	1	Warehouse
Ambulance – 3 person 2-way radio First aid supplies, oxygen	1	Firehouse
SCBAs	10	Personnel

7. Other (e.g. Heavy Equipment, Boats, Motors, etc.) – Operational Status: Operational

Type and Year:	Quantity:	Storage Location:
Backhoe	1	Maintenance Yard
Dump Truck – 2.5 cubic yard capacity	1	Maintenance Yard
Road Grader	1	Maintenance Yard
Vac Truck – 80 barrel capacity	1	Maintenance Yard
Type and Year:	Quantity:	Storage Location:
Pick-up Trucks	6	Maintenance Yard
Front-end Loader	1	Maintenance Yard
55-Gallon Drums (empty)	50-200	Warehouse

8. Personal Protective Equipment: Operational

Type and Year:	Quantity:	Storage Location:
Hard Hats	1 per employee	Personnel
Rubber Boots	20	Environmental Building

Nitrile Gloves	2 bxs.	Environmental Building
Neoprene Gloves	2 bxs.	Environmental Building

9. Spill Trailer Inventory: Operational

Type and Year:	Quantity:	Storage Location:
CM Trailer (20x8)	1	Maintenance Yard
Generator	1	Spill Trailer
5 Gallon Gas Can (Type 5)	1	Spill Trailer
Round Point Shovel	5	Spill Trailer
Broom	3	Spill Trailer
Square Shovel	5	Spill Trailer
Mop Handle	2	Spill Trailer
Rake	2	Spill Trailer
Hoe	2	Spill Trailer
Tarp 10x12	1	Spill Trailer
Tarp 16x20	1	Spill Trailer
Reflective Vests	6	Spill Trailer
Traffic Cones	5	Spill Trailer
Barrier Fence	1	Spill Trailer
38 pc. Tool Set	1	Spill Trailer
Hand Carry Light	3	Spill Trailer
16" Ext. Ladder	1	Spill Trailer
Box Trash Liners	1	Spill Trailer
55 Gallon Container w/lid	1	Spill Trailer
Polypropylene Rope	1	Spill Trailer

Orange Flashlights	6	Spill Trailer
Eye and Skin Station	1	Spill Trailer
T Post Driver	1	Spill Trailer
5 Gallon Container	2	Spill Trailer
Navigator	1	Spill Trailer
50 ft. Extension Cord	2	Spill Trailer
Hand Cleaner	1	Spill Trailer
Boat w/motor	1	Spill Trailer

APPENDIX C

PLAN IMPLEMENTATION

This Section will detail how to implement the Gallup Refinery Facility's Emergency Response Plan by describing the Response Actions to be carried out under this plan to ensure the safety of the facility and to mitigate or prevent accidental discharges of oil (Petroleum Products).

This Section includes the Plans and Identification of Response Resources for Small, Medium, and Worst Case Spills; Disposal Plans; and Containment and Drainage Planning.

It also includes the calculations specified in Appendix E in 40 CFR 112.20 to determine the amount of response resources that must be available to the facility to respond to the spill scenarios identified in this plan.

IMMEDIATE ACTION PLAN

A. In the Event of a Spill at Gallup Refinery, the Emergency Response Immediate Response Actions will include the following at a minimum:

1. Shut off source of spill, if possible. Contact the Incident Commander/Qualified Individual.

2. Alert personnel in the area and evacuate nonessential personnel and customers upwind and uphill, if possible. Remove vehicles from the area if possible to do so safely.

3. Evaluate the Potential Hazards involved in the emergency and ensure the safety of response personnel through the use of protective equipment as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response.

4. Activate the Incident Command Post. The Initial Designated Command Post for Small, Medium and Worst Case Petroleum Spills is presently the Gallup Refinery Administration Building located at I-40, Exit 39. (See *Map 8 – Emergency Response Personnel and Equipment Assembly Area* at the end of this section).

   The Incident Commander, depending on the location and circumstances of the spill, will designate additional Staging Areas other than the Employee and Visitor Parking Lot West of the Administration Building and the Contractor Parking Lot South of the Administration Building.

5. Perform necessary Notifications of Gallup Refinery Spill Response Team Personnel, Federal, State and Local Environmental Compliance Response Agencies, and Contract Response Organizations.

6. Evacuate all Non-Essential Personnel: Customers, Building/Maintenance Contractors, Residents and Gallup Refinery Employees from the area.

7. Activate and Mobilize Gallup Refinery Facility Oil Spill Containment, Recovery, Storage and Disposal Equipment.

8. Select Proper Equipment to Minimize Sources Capable of Igniting Flammable Vapors as a result of a Petroleum Product Spill at any level.

9. Conduct the following Spill Response Activities:

   a. Trench and Dike any Culverts and Open Channels that would allow flowing Petroleum Product off Gallup Refinery's property.

   b. Construct Dams and Wiers in the washes to contain the spill there and attempt to prevent it from reaching the Rio Puerco. (See Spills on Land at the end of Section 1.7.1.)

   c. Deploy sand, sorbent pads and sorbent boom in the Secondary Containment Area to absorb spilled product .

10. Implement Countermeasures to include the following:

   a. Mitigate contamination of water supplies, if applicable.

   b. Establish neutralization procedures.

11. Collect and remove Crude Oil, Gasoline and/or Diesel fuel from the surrounding area using the following equipment and techniques, when applicable. (See *Figure 1.*)

   a. Backhoes

   b. Pumps

   c. Vacuum Trucks

   d. Oil Sorbents

   e. Physical/Chemical Treatment

12. Mitigate impact to Environmentally Sensitive Areas.

13. Reclaim, Treat and/or Dispose of Recovered Gasoline, Crude Oil and/or Diesel and Contaminated Materials in accordance with applicable Federal, State and Local Regulations.

B. During and After an Emergency Response Operation, appropriate Decontamination Procedures will be implemented under the direction of the Incident Commander.

Decontamination primarily consists of physically removing contaminants or changing their chemical nature to an innocuous substance in a controlled environment and manner. Prior to leaving the Contamination Zone, Gallup Refinery Oil Spill Response Personnel will have to undertake Decontamination Procedures as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response Procedures.

Factors to be considered in determining appropriate Decontamination Procedures specific to each Crude Oil, Gasoline and/or Diesel Fuel Spill Incident, include the following at a minimum:

1. Type of Contamination: The extent of contamination depends on the toxicological effects of the contaminants. Highly toxic or skin-destructive substances require a thorough decontamination method. The established Decontamination Procedures can be downgraded for less toxic contaminants.

    a. A Crude Oil, Gasoline and/or Diesel Fuel Spill will initially require Oil Spill Response Personnel to wear Level C Personal Protective Clothing and Equipment with established Level C Decontamination Procedures.

    b. Based upon Field Monitoring, Weather Conditions, Recovery Conditions, Time, etc. Gallup Refinery Oil Spill Response Personnel will be able to downgrade both their PPE and Decontamination Procedures to a Modified Level C for Oil (Petroleum Product) Spill, as outlined by OSHA.

2. Amount of Contamination: The amount of Crude Oil, Gasoline and/or Diesel Fuel spilled is initially determined visually, then verified analytically. Decontamination required for heavily contaminated shoreline response and cleanup.

3. Effectiveness: Immediate analytical methods to determine the effectiveness of decontamination are typically not available. Visual observations can be used to determine the adequacy of the decontamination. Discoloration, stains, corrosive effects and materials adhering to the surface may indicate the contaminants have not been properly removed.

4. Location: Decontamination should be performed in an area that will minimize exposure to uncontaminated employees and/or equipment. This area is commonly known as the Contamination Reduction Zone and/or Warm Zone.

5. Equipment: Typical equipment used for decontamination procedures includes brushes, detergent, pressurized water supply, containment pools, etc., all easily available. Equipment is typically decontaminated by scrubbing with detergent and/or water following by rinsing with water.

6. Heavy Equipment: Bulldozers, vacuum trucks, trucks, backhoes and other heavy equipment should be rinsed with water under high pressure in designated decontamination areas. Accessible parts including tires should be scrubbed with detergent and rinsed with water.

Evacuation Plans

In the event that circumstances necessitate an evacuation of the refinery or the surrounding vicinity, the person designated as the Emergency Coordinator is Ed Riege.

1. Location of Stored Materials:

Petroleum feedstock, intermediates, products, and other chemicals are stored in various tanks as shown on *Map 6 – Tank Locations and Contents at Gallup Refinery*. The largest concentration of storage is in

the central Tank Farm. Several tanks are also located south of the Process Area and also near the tank truck loading rack. Drums and totes, containing various lubricants, chemicals, additives, and used oils, are also located within the warehouse and at various outdoor storage yards and points of usage within the refinery.

2. Hazard Imposed by Spilled Material:

Possible additional hazards imposed by spilled petroleum feedstock and products into and on the Gallup Refinery area include the following:

* Fire.
* Infiltrate and affect the surrounding ground water in the Gallup area.
* Vapor Cloud Explosion cause by pressurized hydrocarbons.
* Personnel exposure hazards including contact burns and toxic vapor inhalation.

3. Spill Flow Direction:

In the event that a spill occurs and escapes secondary containment, potential spill flow paths for various areas of the refinery are shown on *Map 2 – Spill Flow Direction at the Gallup Refinery*. In general, most spills will flow north or west. Spills that enter the refinery process sewer system will be captured at the Waste Water Treatment Unit. Other spills will migrate toward open ground and follow the natural slope and contour of the landscape.

4. Prevailing Wind Direction and Speed:

The prevailing wind direction in the vicinity of the refinery is west-to-east, however, east-to-west winds can occur as well. Orange colored wind socks are located throughout the refinery to aid in identifying the current local wind direction. Average wind speed is approximately 6 mph.

5. Water Currents, Tides, or Wave Conditions:

During times of moderate-to-heavy rainfall, the South Fork of the Rio Puerco flows from east-to-west; and is otherwise empty and dry.

6. Arrival Route of Emergency Response Personnel and Equipment:

The primary arrival route for off-site emergency responders is via the off-ramps and north-side access road at Exit 39 on Interstate 40. Emergency Response Personnel and Equipment will arrive via the following routes: (See *Map 4 – Routes for Emergency Response Personnel & Equipment.*)

a. From the East, travel West on Interstate Highway 40 and turn north on Route 3 just past the Pilot Travel Center on the right side of the road. Proceed north to the Gallup Refinery entrance.

b. From the North, travel South on US Highway 660 to Interstate Highway 40 and turn east. Continue for approximately 7 miles and turn north on Route 3 just before the Pilot Travel Center. Proceed to the Gallup Refinery entrance.

c. From the West, travel East on Interstate Highway 40 and turn north on Route 3 just past the Pilot Travel Center on the right side of the road. Proceed north to the Gallup Refinery entrance.

7. Evacuation Route:

In the event of an Emergency Response Incident at the Gallup Refinery, two or four blasts will be sounded throughout the Refinery depending on the severity of the incident. In the event of a small incident, two blasts will sound and non-essential and transportation personnel as well as contractors and visitors will shelter-in-place until the Incident Commander verbally signals that the situation is under control. For a large incident, four blasts will sound and personnel exit through the front gate Guard House where they will be accounted for. They then proceed south to the bottom of the hill. (See *Map 5 – Evacuation Routes to Evacuation Assembly Area.*)

Refinery personnel have emergency duty assignments and will report to the Muster Station to respond to the incident unless the safety of these personnel is in danger. In this case, total evacuation may be necessary. Communication will be maintained between emergency crew leaders and the Incident Command Post. If the incident becomes life threatening, personnel will be evacuated to the Incident Command Post or a designated area and await further instructions.

Considerations to be taken for safe evacuation include:

* Location of the incident in relation to work area.
* Exit locations in relation to work area and location of the incident.
* Wind Direction.
* Type of Emergency: Fire, Vapor Release, Chemical Release, etc.
* Restricted access due to debris, downed power lines, etc.

The refinery control room will be evacuated only as a last resort and all automatic and fail-safe systems will be activated before doing so, unless otherwise instructed.

8. Alternative Route of Evacuation:

If the incident occurs in such a manner that employees cannot get to the main entrance, they are to exit through the Gates 2 - 5 and walk around the refinery to the Guard House to be accounted for. They may also use the Walkthrough Gate or the South Door Region Acct. Evacuation Route on the South Side of the complex and proceed to the Guard House. If the Guard House is impacted by the incident, a checkpoint will be established in a safe area south of the Guard House.

9. Transportation of Injured Personnel to Nearest Emergency Medical Facility:

Injured personnel will be transported to the Rehobeth McKinley County Hospital located at 1901 Red Rock Drive in Gallup via ground ambulance traveling along Interstate 40. The refinery owns and maintains an ambulance on-site. Helicopter air evacuation is also available, but must be requested by authorized personnel; including certified EMTs and the State Patrol.

10. Location of Alarm/Notification Systems:

If deemed necessary, the on-duty shift supervisor or Incident Commander may make use of the refinery steam whistle to signal an alert to other employees. This steam whistle may be activated from within the Boiler House. If the steam whistle is disabled, notice for evacuation will be communicated by telephone, radio or other means.

11. Centralized Check-in/Assembly Area for Evacuation Validation:

The centralized check-in location for evacuating personnel will be at the Guard House located near the entrance to the refinery.

12. Selection of Incident Command Post:

The Incident Command Post will be set up in the Conference Room in the Gallup Refinery Main Office located on Route 3. This post may be used to assist in coordinating emergency response activities and communicate with public authorities. An Operations Center will be set as close to the site of the spill as is deemed safe by the Safety Officer.

13. Optional Evacuation Shelter:

As an alternative to evacuation off-site, the Incident Commander in charge of the response may use the Refinery Main Office Building as an Assembly Area for the duration of the response, provided that it is safe to do so.

Containment and Drainage Planning

Spills in the Gallup Refinery are contained and controlled as follows.

The refinery follows industry standard practices for design, engineering, specification, fabrication, installation, operation, maintenance, inspection, and mechanical integrity.

In general, these standard practices are described in detail in the refinery Process Safety Management (PSM) Program. Description and documentation of this program is contained in files and materials located in the Technical Services Department.

General Prevention:

Prevention is the first line of defense against the occurrence of an emergency situation. In general, the probability of occurrence is reduced by the following methods.

1. Process equipment, vessels, tanks, and piping are engineered to safely and reliably contain applicable process fluids under normal operating conditions. The refinery utilizes appropriate industry standards and practices in the design, construction, and maintenance of all equipment.

2. Under abnormal operating conditions, process vessels, equipment, and piping are protected against overpressure and rupture by safety relief valves. Most safety relief valves vent into the refinery flare system.

3. Most petroleum storage tanks are constructed of carbon steel and protected against corrosion using appropriate surface coatings and in some cases an impressed electric current.

   All tanks are visually inspected annually for mechanical integrity. Detailed internal inspections are conducted at least once every ten years. Repairs are made as necessary.

4. Most underground piping is constructed of carbon steel, which is protected against corrosion by wrapping and surface coatings. Some of this piping is being phased out and will eventually be replaced with aboveground piping.

5. During regularly scheduled refinery turnaround maintenance outages, equipment, valves, and piping are inspected for mechanical integrity. Inadequate facilities are repaired or replaced.

6. Standard operating procedures are used as follows:

   a) Process surveillance rounds are conducted during each shift. Process equipment, vessels, tanks, piping, and grounds are visually inspected for signs of abnormal conditions, leakage, or spills. Spills are immediately reported to the Shift Supervisor and response action is initiated.

   b) Storage tanks are gauged daily and recorded. Tank inventory is checked against input and output quantities to detect potential leakage.

   c) Portable storage tanks used within the refinery are located within secondary containment pads or dikes.

   d) All loading and unloading operations are performed in compliance with DOT regulations and are attended full-time. Warning placards are placed in front of tank trucks to alert drivers that disconnection must be ensured prior to departure.

Spill Prevention Controls:

The following controls have been installed to contain potential spills and prevent off-site migration of a liquid release.

1. All petroleum storage tanks are located within full encirclement earthen containment dikes constructed of low permeability soil. All basins are sized to contain the maximum volume of the largest tank within the dike, plus allow an additional freeboard height of at least 6 inches. Most tank dikes are not equipped with drain lines or valves. Precipitation is infrequent and stormwater trapped within dike areas typically evaporates. Spills are typically removed via vacuum trucks or portable manually controlled pumping systems. Recovered material is transferred to a slop tank or the Waste Water Treatment Unit (WWTU), as appropriate.

2. Refinery processing units are located within the Process Area. Within this area, most vessels, pumps, piping, and related equipment are located within curbed containment pads. Most containment pads drain directly to the WWTU. Some containment pads drain to sealed collection sumps that can then be pumped to either a slop tank or the WWTU, as appropriate.

3. Loading and unloading stations are located within curbed containment pads equipped with sumps and drains. All loading and unloading stations drain to the WWTU or to collection sumps that can then be pumped to either a slop tank or the WWTU, as appropriate.

4. Portable containers located within the warehouse storage yard are handled as follows. Most drums and totes are placed within a secondary containment structure. Remaining drums and totes are located in an area of the yard that drains to the WWTU.

5. Transfer piping and other spill sources located within the refinery but outside of containment structures are located such that surface topography will cause spills will flow to various retention basins as shown on the Refinery Plot Plan.

6. Spilled material which accumulates in any retention basin is removed via portable skimmers and pumps, and then transferred to a either a slop tank or the WWTU, as appropriate

Containment and Diversionary Structures [112.7(c) and 112.7(a)(3)(iii)]

The facility is configured to minimize the likelihood of a discharge reaching navigable waters. The following measures are provided:

- Secondary containment for the oil storage tanks is provided by earthen berms that provide containment as described in Section 3.2.2 below. The berms are constructed of native soils and heavy clay that have been compacted. A clay layer in the shallow subsurface exists naturally and will stop any spilled oil from seeping to deeper groundwater.
- The tanker rack loading area is flat but gently slopes to the southwest, where a crescent-shaped, open berm has been placed to catch any potential spills from tanker transport trucks. The berm area provides a catchment basin of at least 40 barrels (1,680 gallons), the maximum expected amount of a spill from the tanker due to overtopping of the truck during loading. In addition, the end of the load line is equipped with a load line drip bucket designed to prevent small discharges that may occur when disconnecting the hose.
- Booms, sorbents, shovels, and other discharge response materials are stored in the guard building located in close proximity to the loading area. This material is sufficient to contain small discharges (up to approximately 200 gallons).

These measures are described in more detail in the following sections.

Facility Drainage [112.8(b)]

Facility drainage in the processing area is provided by separate process and storm sewers. Oily water entering the process sewer is routed to the new API separator for treatment. Water entering the storm sewers is routed to the old API separator. Water entering the old API separator is pumped into the new API separator. The area is inspected by facility environmental personnel on a daily basis during routine facility rounds, during formal monthly inspections, and after rain events, to detect any discoloration or staining that would indicate the presence of oil

from small leaks within the facility. Any accumulation of oil is promptly removed and typically recycled back into the process. Formal monthly inspections are documented.

Discharges from ASTs are restrained by the secondary containment berms.

Construction (112.8(c)(1))
All oil storage tanks are field constructed and meet the American Petroleum Institute (API) tank construction standard. Their design and construction are compatible with the oil they contain and the temperature and pressure conditions of storage. Tanks storing crude or other oils are constructed of welded steel following API-12F *Field Constructed Tanks for Storage of Production Liquids* specifications. Steel tanks are coated to minimize corrosion. In some cases, impressed galvanic cathodic protection is used.

Secondary Containment for Bulk Storage Containers [112.8(c)(2)]
In order to further minimize the potential for a discharge to navigable waters, bulk storage containers such as all storage tanks are completely enclosed by earthen berms. The floor and walls of the berms are constructed of compacted earth with a layer of clay that ensures that the berms are able to contain the potential release of oil from the storage tanks until the discharge can be detected and addressed by field operations personnel. Facility personnel inspect the berm areas monthly for the presence of oil and condition of the berms. A blank inspection form for the monthly secondary inspections is in Appendix C.

The berm capacity exceeds the SPCC and New Mexico requirements. It provides secondary containment sufficient for the size of the largest tank, plus at least one-half foot of freeboard to contain precipitation. This secondary containment capacity is equivalent to 130 percent of the capacity of the largest tank within the containment area (crude oil tank: 80,000 barrels). Gallup Refinery conducted an evaluation of the secondary containment berms in 1999. The results of the evaluation showed that the containment capacities are adequate in some of the cells. However, some cells were found to have insufficient containment capacity. The study provided details regarding heights the berms needed to be raised to meet containment criteria. In 2000, Gallup Refinery added clay to bring the berms up to the required heights. The details of the berm capacity calculations are provided in the Appendix J.

Drainage of Berm Areas (40 CFR 112.8(c)(3))
Most berms are not equipped with drain lines because precipitation is infrequent and storm water trapped within the berms typically soon evaporates.

Berms where drain valves are provided for the containment structures are opened and resealed following drainage under the responsible supervision of field operations personnel. Free oil, if any, is promptly removed and disposed of in accordance with waste regulations.

Practicability of Secondary Containment [112.7(d)]
Gallup Refinery management has determined that secondary containment is practicable at this facility and therefore a contingency plan is not necessary for spill management. Storage tanks and refining process equipment is provided with adequate secondary containment in the form of earthen berms, concrete dikes, and or concrete curbing.

Other Spill Prevention Measures

Overfill Prevention Systems [112.8(c)(8)]

Storage tanks in the marketing tank farm are provided with over-fill protection devices consisting of high liquid level alarms with an audible or visual signal display in the boiler room. The ASTs in the remainder of the tank farm are equipped with vision gauges with laboratory tank gauge personnel monitoring gauges and the overall filling of the AST. The gauge monitors the level of each tank on a daily basis. Records of tank level observations are maintained in the Laboratory.

The liquid level sensing devices in the marketing tank farm are inspected on a regular schedule.

Effluent Treatment Facilities (40 CFR 112.8(c)(9))

The facility's process waste water is routed to an API separator for oil-water separation. Separated water is pumped from the API separator to two air stripping towers for treatment removal of benzene. The treated waste water is then discharged into aeration lagoons for intense biological treatment. Water is routed from the lagoons into a system of evaporation ponds. All of the treated water is evaporated in the evaporation ponds so no treated water leaves the site.

Currently, storm water from the process area is routed to an old API separator to remove any oil that may be in it. The water is pumped into the new API separator so it may be passed through benzene strippers. The treated storm water also then is passed onto the aeration lagoons and evaporation ponds. In the future, the storm water will be routed to two large existing tanks. Water will be pumped from the tanks to the new API separator for treatment.

Visible Discharges (40 CFR 112.8(c)(10))

Visible discharges from any container or appurtenance – including seams, gaskets, piping, pumps, valves, - are corrected quickly upon discovery.

Oil will be removed promptly from within dike/berm areas and is recycled back into the refining process or disposed of according to the waste disposal method of this plan.

Mobile and Portable Containers (40 CFR 112.8(c)(11))

Lubricating oil and other substances, such as solvents and chemicals, are also stored at the facility at various locations in various sizes of drums and small tanks or totes. Table 1-3 lists the oil materials stored in drums and small tanks/totes at the facility. These are stored inside buildings either away from doors or in areas with sloped floors such that spillage would be retained inside the building. In the event that spillage would occur, it would be quickly contained and cleaned up using sorbent pigs and pads.

Transfer Operations [112.8(d)]

Process surveillance rounds are conducted each shift by lab personnel. The various activities required in the oil movement areas are controlled from the refinery laboratory. The laboratory foreman is responsible for all transfers of product or components during each working shift. The oil pumper/gauger receives direction from the laboratory foreman.

Components of the storage tanks are inspected on a monthly basis by field operation personnel and following the checklist provided in Appendix D of this SPCC Plan.

Disposal Plan

The cleanup contractor will handle the disposal of any recovered product, contaminated soil, contaminated materials and equipment, decontamination solutions, sorbents, and spent chemicals collected during a response to a discharge incident.

Any recovered product that can be recycled will be placed into the slop oil tank. Any recovered product not deemed suitable for on-site recycling will be disposed of with the rest of the waste collected during the response efforts.

If the facility responds to a discharge without involvement of a cleanup contractor, Gallup Refinery will contract a licensed transportation/disposal company to dispose of waste according to regulatory requirements. The Environmental Specialists will characterize the waste and arrange for the use of certified waste containers.

All facility personnel handling hazardous wastes must have received both the initial 40-hour and annual 8-hour refresher training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) of the Occupational Health and Safety Administration (OSHA). This training is included as part of the initial training received by all field personnel. Training records and certificates are kept at the environmental engineer's office.

A. This section will describe how and where the Gallup Refinery Facility Spill Response Team intends to Recover, Reuse, Decontaminate, or Dispose of Materials after an Accidental Discharge of Petroleum Products at the Gallup Refinery Facility.

Spill clean-up materials shall be disposed in accordance with applicable laws and regulations. Specific materials shall be handled as follows.

1. Recovered product shall be placed in an appropriate slop oil tank and recycled through the refinery. If the recovered product is contaminated with water or solids, it shall first be treated in the API separator prior to being recycled.

2. Contaminated soil shall be disposed off-site at an appropriate landfill. Contaminated soil may be treated on-site using a land farm technique; upon approval and authorization of appropriate agencies.

3. Contaminated equipment and materials, including tanks, drums, roll-off boxes, hoses, shovels, etc., shall be washed with an appropriate cleaning solution at the conclusion of the spill response.

4. Reusable PPE shall be washed with an appropriate cleaning solution at the conclusion of the spill response. Non-reusable PPE shall be placed in disposal drums or bins and disposed off-site at an appropriate landfill.

5. Decontamination solutions (wash water) shall be treated at the Waste Water Treatment Unit (WWTU) if appropriate. Alternately, decontamination solutions shall be drummed and sent off-site for appropriate treatment and disposal.

6. Adsorbent pads and similar oil-soaked materials shall be placed in disposal drums or bins and disposed off-site at an appropriate landfill.

7. Spent chemicals shall be placed in appropriate drums, totes, or tanks and disposed as per applicable laws and regulations.

B. The following are Liquid Waste Handling and Disposal Techniques that can and will be utilized by the Gallup Refinery Facility Emergency Response Team in the event of a Petroleum Spill at the Gallup Refinery Facility.

1. Available Temporary Storage Devices:

* vacuum trucks
* road tankers (3)

2. Disposal Options:

* Transport off-site to a Federal/State approved waste oil processor for recycle/reuse.
* If hazardous waste is involved, Licensed Hazardous Waste Transporters will be retained to transfer hazardous wastes to Licensed Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF) for proper treatment and/or disposal.

3. Oil Contaminated Solid Waste Profile:

* Oil contaminated sorbent material (pads, booms, sweeps, particulate, etc.).
* Contaminated organic material (peat moss, straw, hay, fiber perl, etc.).
* Shoreline and marsh debris (drift wood, sea-weed, grass, garbage).
* Oily sand and mud.
* Oil contaminated rocks, shells and rip-rap used for erosion control.
* Oil saturated items such as protective suits, boots, gloves, rope, plastic bags, and rags.

4. Handling and Storage Techniques:

* Dump trucks (temporary only).
* On-site pits (permitted only) construct temporary lined pits (with Federal/State approval only).
* Dumpsters for non-hazardous debris only (paper, cans, bottles, etc.).
* 6.0 mil. minimum plastic bags with wire ties.

5. Solid Waste Characterization and Profile:

* Facility to receive, separate/sort, and store solid waste.
* Reduce waste volume by shredding, adding absorbent material to stabilize free liquids.
* Back-hoe or front-end loader to facilitate segregation activities.

6. Analytical Support:

* Pre-qualify local laboratory for waste sample analysis.
* Local lab to supply necessary sample equipment and chain of custody forms.
* Set up for fast turn-a-rounds on results.
* Pre-approve analytical (TCLP, PCB, BTU, etc.)

7. Disposal Site Selection:

* Contact local disposal facilities for waste acceptance (liquids, solids, sanitary, etc.).
* Ensure State and Federal approvals are in order.
* Research transportation requirements.
* Analytical results on waste streams available for disposal facility review and approval.

8. Free Liquids (Oil and Water):

* Consider all oil and oil emulsions for possible recycle/reuse.
* Research local waste oil recycling firms in area. Ensure State/Federal approvals are in order.

9. Oil Absorbent Materials:

* Research new technology as it pertains to recycling used oil absorbent material.
* Set up pad wringer stations throughout the spill work site where sorbents are being used. Sorbent pads can be used up to four to five times before losing their oil absorbing property.
* Sorbent booms and sweeps should be double bagged and separated from other solid waste items. Once recycling firm has been located, ship direct from spill site to the recycling facility.
* Ensure compliance with State and Federal recycling guidelines, if any.

10. Oil Contaminated Sand and Gravel:

* Research available commercial sand and gravel cleaners.
* Have pre-approved lab set up analytical, if required by regulations.
* Train shoreline clean-up team not to remove excessive amounts of sand or beach front.

11. Oil Contaminated Debris:

* Seek approval from state or federal representative on-scene to allow stacking of contaminated debris and pressure washing to remove oil clinging as opposed to hauling off-site for disposal.

Disposal Plan

Material	Disposal Facility	Location	RCRA Permit/ Manifest

Response Resources for Small, Medium and Worst Case Spills

A. In order to determine that amount of response resources needed for both recovery of oil on water and on shorelines, the following calculations have been made.

The effective daily recovery capacity for the removal capacity for the Gallup Refinery Crude Oil (Group 3 oil) a skimmer pump (1000 gpm) is the following:

R = T x 24 hours x E

Where R is the Effective Daily Recovery Capacity,
T is the Throughput in barrels/hour
E is the Efficiency factor (10% in this case).

R = 1,428 bbls/hour x 24 hours x .10
R = 3,427 bbls/day

The Worst Case Discharge for this facility is 81,000 barrels of Crude Oil (Group 3).

With the numbers from Table 2, it is determined that 81,000 barrels of oil will provide the following results:

Crude Oil (Group 3)

81,000 barrels x 20% Natural Dissipation = 16,200 barrels
81,000 barrels x 15% Recovered Floating Oil = 12,150 barrels
81,000 barrels x 65% Oil Onshore = 52,650 barrels

For Floating Oil, an Emulsification Factor is added:

Crude Oil

12,150 barrels Recovered Floating Oil x 2.0 Emulsification Factor = 24,300 barrels

Table 4 provides Water On Oil Recovery Resources Mobilization Factors based on the appropriate operating area and response tier. For the Gallup Refinery, these calculations are:

Tier 1 12,150 barrels (EDRC x 12 hours) x .30 = 3,645 barrels/day
Tier 2 12,150 barrels x .40 = 4,860 barrels/day
Tier 3 12,150 barrels x .60 = 7,290 barrels/day

For Shoreline Cleanup Capacity needed, the following calculations are done:

52,650 barrels Total Volume x 2.0 Emulsification Factor = 105,300 barrels

H2O OSRO is the contracted response contractor for Western Refining, Inc. – Gallup Refinery. A complete list of their inventory can be found in Section 1.3.4 of this plan. Their inventory is adequate to respond to the Gallup Refinery's spill needs.

B. In the Event of a Spill at the Gallup Refinery, the Emergency Response Immediate Response Actions will include the following at a minimum:

1. Shut off source of spill and stop product flow, if possible. Notify the Shift Supervisor. Evaluate the Potential Hazards involved in the emergency and ensure the safety of response personnel through the use of protective equipment as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response.

2. Warn Personnel and enforce safety and security procedures. Attend to any injured persons.

3. Order all Non-Essential Personnel to leave the area including: Customers, Building/Maintenance Contractors, and Gallup Refinery Employees. Prevent unauthorized personnel and vehicles from entering the area.

4. An Incident Commander shall assume leadership of the situation and activate the Incident Command Post. The Initial Designated Command Post for Small, Medium and Worst Case Spills is presently the Gallup Refinery Main Office located at 50 County Road 4990. (See *Map 8 – Emergency Response Personnel and Equipment Assembly and Staging Areas* at the end of this section). In addition, the following actions should be taken:

   a. Assure that all affected personnel have been alerted. If appropriate, sound a general alarm.

   b. Assess the situation and determine basic information including:
      Type of material spilled
      Exact source
      Estimated amount
      Extent of spread and direction of flow, if any

   The Incident Commander, depending on the location and circumstances of the spill, will designate additional Staging Areas other than the Parking Lot South of the Main Office and the Parking Lot South of the Regional Office Building.

5. Perform necessary Notifications of Gallup Refinery Spill Response Team Personnel, Federal, State and Local Environmental Compliance Response Agencies, and Contract Response Organizations including H2O OSRO.

6. Notify Downstream Water Users of the spill.

7. Activate and Mobilize the Gallup Refinery Facility Oil Spill Containment, Recovery, Fire Fighting, Storage and Disposal Equipment.

8. Select Proper Equipment to Minimize Sources Capable of Igniting Flammable Vapors as a result of a Petroleum Spill at any level.

9. Conduct the following Spill Response Activities:

a. Trench and Dike of any Culverts and Open Channels that would allow flowing Petroleum Product off the Gallup Refinery property.

b. Construct Dams and Wiers in the affected washes to contain the spill there and attempt to prevent it from reaching the Rio Puerco. (See *Spills on Land* in this section.)

c. Deploy sand, sorbent pads and sorbent boom in affected areas and potential waterways in the path of the spill to absorb spilled product .

10. Implement Countermeasures to include the following:

a. Mitigate contamination of water supplies, if applicable.

b. Establish neutralization procedures.

11. Collect and remove spilled product from the surrounding area using the following equipment and techniques, when applicable. (See *Figure 10.*)

a. Backhoes

b. Pumps

c. Vacuum Trucks

d. Oil Sorbents

e. Physical/Chemical Treatment

12. Mitigate impact to Environmentally Sensitive Areas.

13. Reclaim, Treat and/or Dispose of Recovered Product and Contaminated Materials in accordance with applicable Federal, State and Local Regulations.

C. During and After an Emergency Response Operation, appropriate Decontamination Procedures will be implemented under the direction of the Incident Commander.

Decontamination primarily consists of physically removing contaminants or changing their chemical nature to an innocuous substance in a controlled environment and manner. Prior to leaving the Contamination Zone, Gallup Refinery Oil Spill Response Personnel will have to undertake Decontamination Procedures as outlined by OSHA 1910.120(q)(6) – Hazardous Waste Operations and Emergency Response Procedures.

Factors to be considered in determining appropriate Decontamination Procedures specific to each Spill Incident, include the following at a minimum:

1. Type of Contamination: The extent of contamination depends on the toxicological effects of the contaminants. Highly toxic or skin-destructive substances require a thorough

decontamination method. The established Decontamination Procedures can be downgraded for less toxic contaminants.

a. A Petroleum Spill may initially require Oil Spill Response Personnel to wear Level C Personal Protective Clothing and Equipment with established Level C Decontamination Procedures.

b. Based upon Field Monitoring, Weather Conditions, Recovery Conditions, Time, etc. Gallup Refinery Oil Spill Response Personnel will be able to downgrade both their PPE and Decontamination Procedures to a Modified Level C for Oil (Petroleum Product) Spill, as outlined by OSHA.

2. Amount of Contamination: The amount of product spilled is initially determined visually, then verified analytically. Decontamination will be required for heavily contaminated shoreline response and cleanup.

3. Effectiveness: Immediate analytical methods to determine the effectiveness of decontamination are typically not available. Visual observations can be used to determine the adequacy of the decontamination. Discoloration, stains, corrosive effects and materials adhering to the surface may indicate the contaminants have not been properly removed.

4. Location: Decontamination should be performed in an area that will minimize exposure to uncontaminated employees and/or equipment. This area is commonly known as the Contamination Reduction Zone and/or Warm Zone.

5. Equipment: Typical equipment used for decontamination procedures includes brushes, detergent, pressurized water supply, containment pools, etc., are all easily available. Equipment is typically decontaminated by scrubbing with detergent and/or water following by rinsing with water.

6. Heavy Equipment: Bulldozers, vacuum trucks, trucks, backhoes and other heavy equipment should be rinsed with water under high pressure in designated decontamination areas. Accessible parts including tires should be scrubbed with detergent and rinsed with water.

APPENDIX D

DESCRIPTION OF AGREEMENT WITH LOCAL AUTHORITIES-

Description of agreement with local authorities is currently being revised.

APPENDIX E

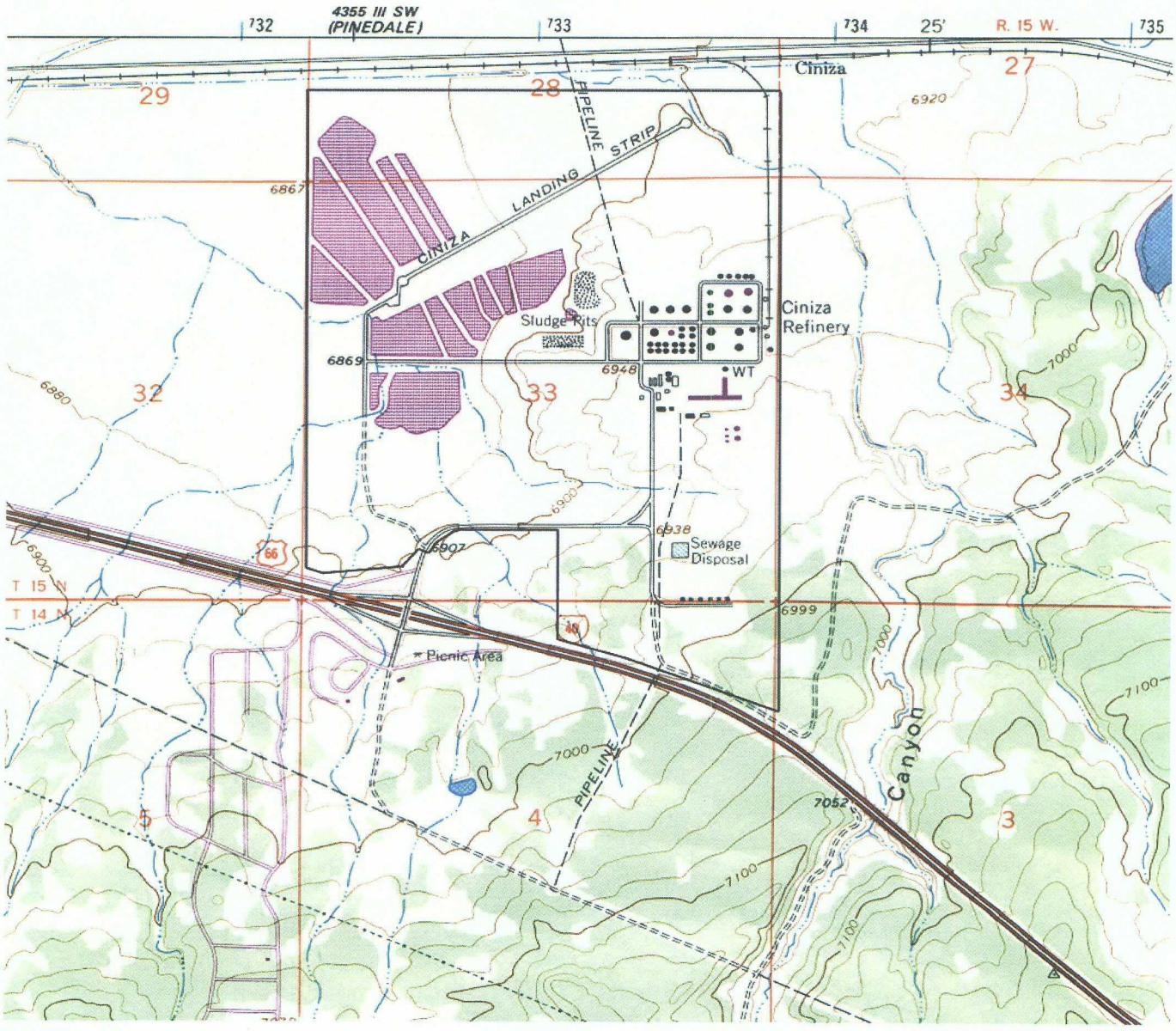
WRITTEN AGREEMENT WITH LOCAL RESPONDERS

A written agreement with local responders is currently being revised.

APPENDIX F

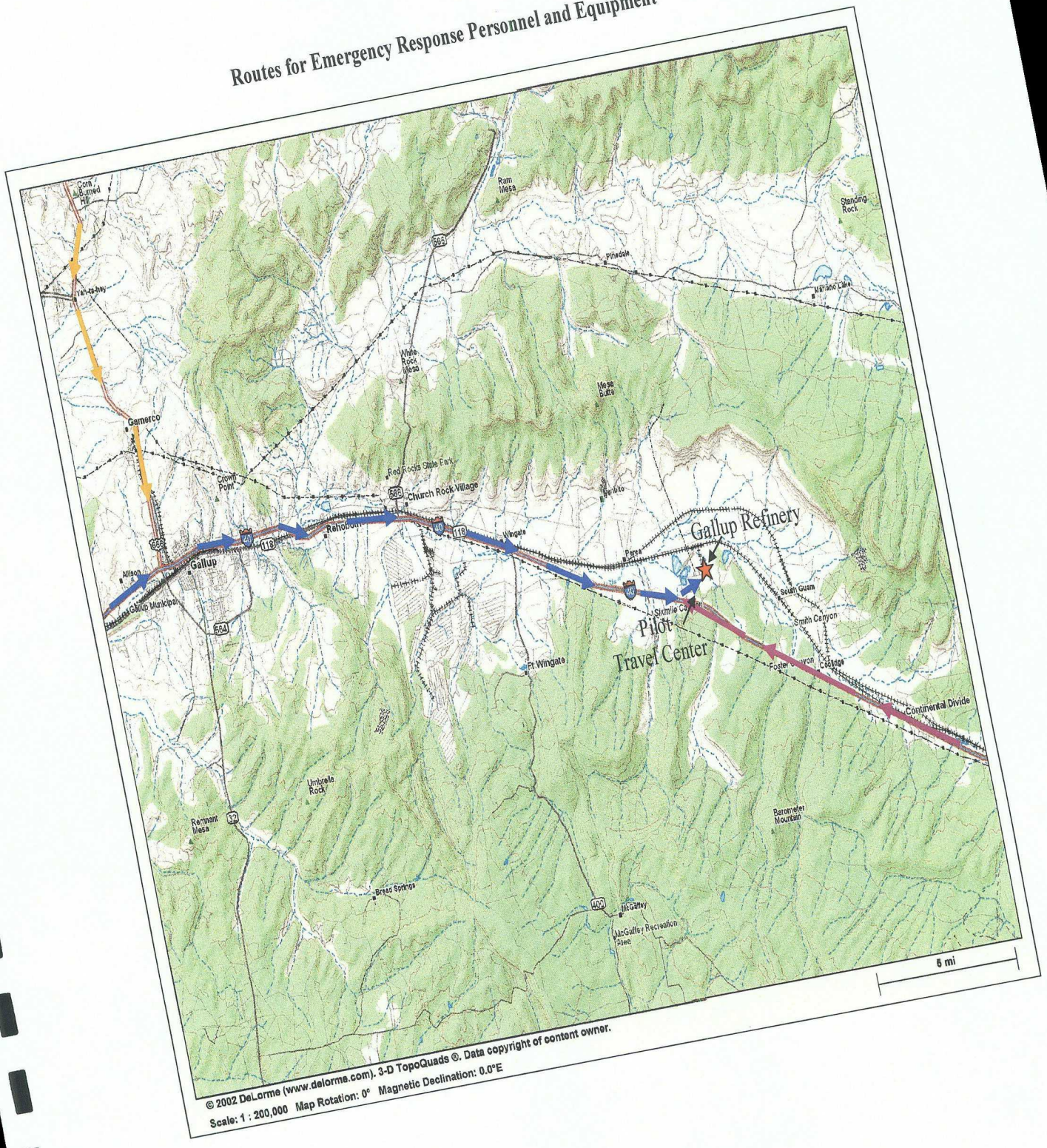
Figure 1: Regional Map

Figure 2: Overall Site Map
USGS Topographical Map - Ciniza Quadrangle (Revised 1980)

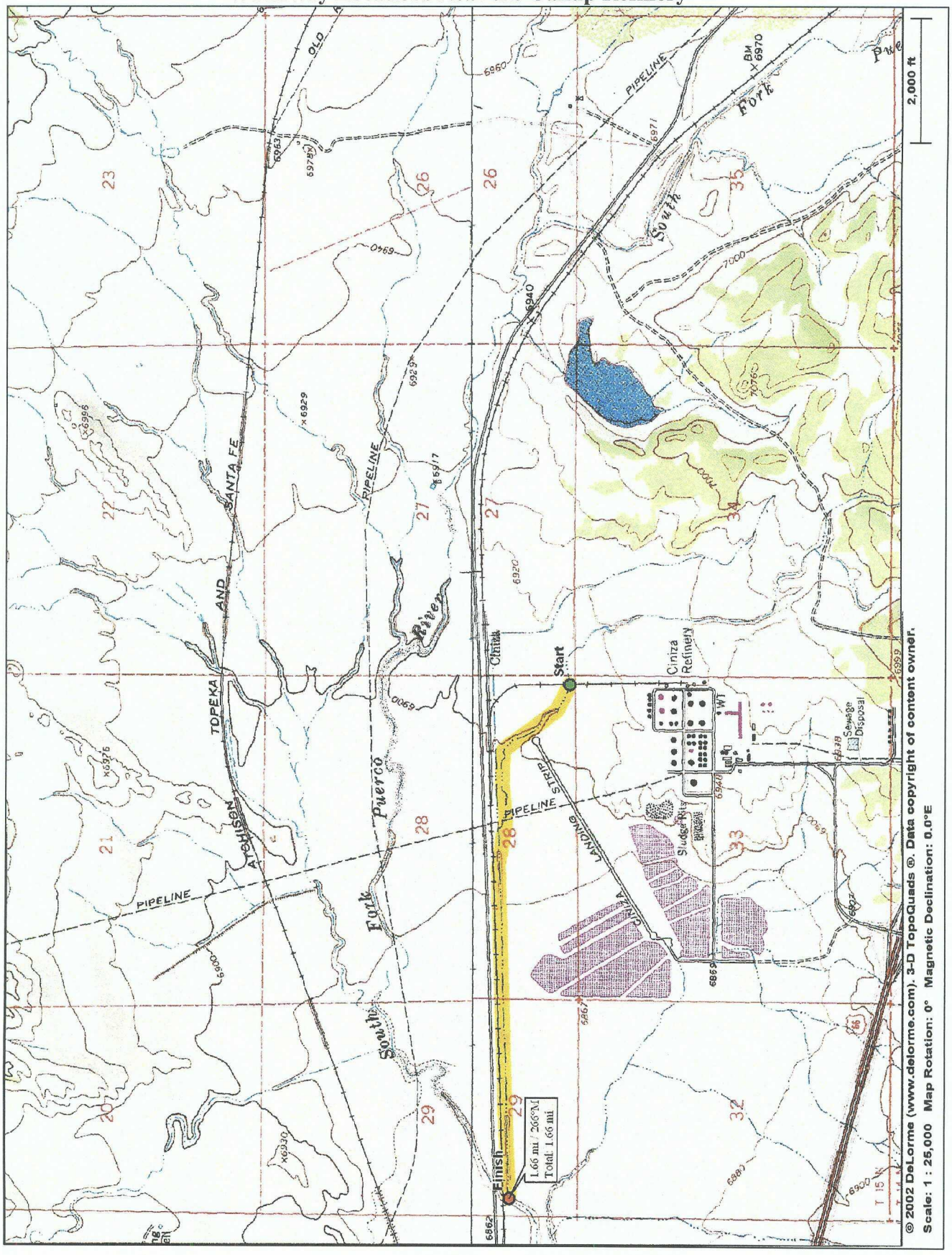


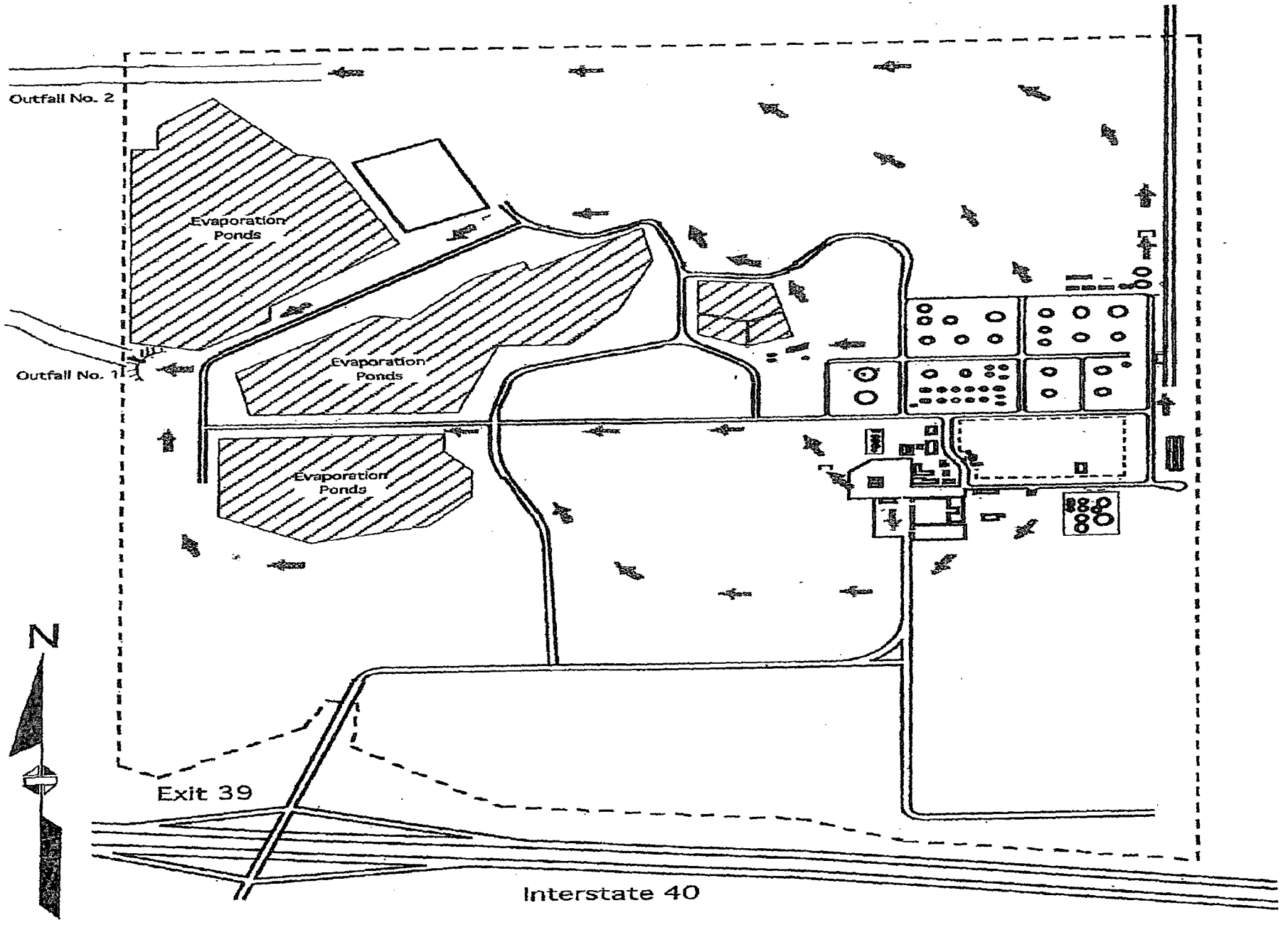
Location of Gallup Refinery

Routes for Emergency Response Personnel and Equipment



Waterway Locations Near the Gallup Refinery




Outfall No. 2
Evaporation Ponds
Outfall No. 1
Evaporation Ponds
Evaporation Ponds
N
Exit 39
Interstate 40

GALLUP REFINERY STORAGE TANK TABLE

Count #	TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	TANK DIAMETER	TANK HEIGHT/ LENGTH	Dia - ft	Height (ft)	Volume (bbls) Calculated from	PRODUCT	NEXT EXTERNAL INSPEC.	NEXT INTERNAL INSPEC.	TANK STYLE	FLOOR STYLE		CONTAINMENT STYLE	Compacting of Soils or Concrete Containment by 10/1/09 IF Action is Required			Auto Tank Gauging System (>10,000 gallons) if Hydrocarbon or Chemical Storage			Comments on Work Progress as of January 28,2009
													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
									2008													
1	P-V19A	1957	668.7 ft^3	30'	LTH-147'-5"	30.0	147.4		HYDROGEN GAS	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
2	P-V19B	1957	668.7 ft^3	30'	LTH-147'-5"	30.0	147.4		HYDROGEN GAS	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
3	P-V19C	1957	668.7 ft^3	30'	LTH-147'-5"	30.0	147.4		HYDROGEN GAS	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
4	TK-115	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2008	2008	Cone	Double	Mar-08	Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Mar-09	Installation Complete
5	TK-2	1965	4,000	30'-0"	32'-0"	30.0	32.0	4,029	UNLEADED PREMUM	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Mar-09	Installation Complete
6	TK-228	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	K-1	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Feb-09	Installation Complete
7	TK-4	1970	3,800	30'-5"	32'-0"	30.4	32.0	4,141	83.0 OCTANE	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Feb-09	Installation Complete
8	TK-446	1945	700	8'11"	62'-11"	8.9	62.9	700	OLEFINS/ISO BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Apr-09	Installation Complete
9	TK-447	1957	1,373	11'-9"	LTH-71'-1"	11.8	71.1	1,373	ISO-BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Mar-09	Installation Complete
10	TK-555	1974	2,073	131.875"	LTH-122'8 1/2"	11.0	122.7	2,073	ISO-BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Feb-09	Installation Complete
11	TK-560	1957	2,300	11'-9"	LTH-69'-11"	11.8	69.9	1,350	BUTANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	Dec-09	Dec-09	Installation Complete
12	TK-564	1957	5,000	30'-0"	40'-0"	30.0	40.0	5,036	NAT.GASOLINE/ISOMERATE	2008	2008	Elyps.	Single		Soil/Gravel	Yes	9/'09	n/a	YES	Dec-08	Feb-09	Installation Complete
13	TK-565	1957	5,000	30'-0"	40'-0"	30.0	40.0	5,036	ISOM/NAT GASO/TOL	2008	2008	Elyps.	Single		Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Feb-09	Installation Complete
14	TK-575	1957	10,000	42'-6"	40'-0"	42.5	40.0	10,106	JET-A/K1	2008	2008	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	1Q'09	Dec-09	Installation Complete
									2009													
15	TK-102	1991	80,000	110'-0"	48'-0"	110.0	48.0	81,242	CRUDE	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	Nov-09	Installation Complete
16	TK-106	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	Aug-09	Installation Complete
17	TK-18570		54	8'-0"	6'-0"	8.0	6.0	54	NALCO 7359	2009	2009	Cone	Single		Soil/Gravel	Yes	n/a	OOS	OOS	n/a	n/a	removed from service
18	TK-18571		54	8'-0"	6'-0"	8.0	6.0	54	NALCO 7359	2009	2009	Cone	Single		Soil/Gravel	Yes	n/a	OOS	OOS	n/a	n/a	removed from service
19	TK-5	1963	1,800	21'-6"	28'	21.5	28.0	1,810	ETHANOL	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	Nov-09	Installation Complete
20	TK-563	1986	20,000	60'-0"	46'-6"	60.0	46.5	23,416	NAT. GASOLINE	2009	2009	Elyps.	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009	May-09	Installation Complete
21	TK-7	1946	330	77"	LTH-66'-0"	6.4	66.0	380	ISOMERATE	2009	2009	Bullet	Elevated	n/a	Concrete	No	n/a	n/a	OOS	2009	n/a	Condemned- out of service
22	TK-581	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	LCO	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013	Jun-09	moved up - Gauge Installation Complete
23	TK-567	1969	20,000	60'-0"	40'-0"	60.0	40.0	20,143	83.O UNLD. REG.	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016	May-09	moved up - Gauge Installation Complete
24	TK-912		188	8'-0"	21'-0"	8.0	21.0	188	Add. Gasoline (6331)	2009	2009	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
25	TK-913		206	9'-11"	15'-0"	9.9	15.0	206	Add. Gasoline (NAP 96)	2009	2009	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
26	Z81-T1	1998	1,000	21'-3"	16'-0"	21.3	16.0	1,011	TREATED WATER	2009	2009	Cone	Single		Concrete	No	n/a	n/a	No	n/a	n/a	no level gauge work required
27	Z81-T9		60	6'-0"	12'-0"	6.0	12.0	60	DIESEL	2009	2009	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2010													
28	Q-T2	1956	112	10'-0"	8'-0"	10.0	8.0	112	CAUSTIC	2010	2010	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
29	Q-T8	1963	226	11'-9"	11'-8"	11.8	11.7	225	CAUSTIC	2010	2010	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
30	TK-1001		72	5'-4"	18'-0"	5.3	18.0	72	DIESEL TANK	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
31	TK-1002		72	5'-4"	18'-0"	5.3	18.0	72	GASOLINE TANK	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
32	TK-1003		57	5'-9"	12'-3 1/2"	5.8	12.3	57	DIESEL POUR POINT ADDITIVE	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
33	TK-1004		112	7'-5"	14'-7 1/2"	7.4	14.6	112	DIESEL LUBRICITY ADDITIVE	2010	2010	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
34	TK-556	1957	718	9'-2 3/4 "	LTH-53'-10"	9.2	53.8	641	PROPANE	2008	2008	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	12/08	Feb-10	Installation Complete
35	TK-345	1977	20,000	60'-0"	42'-0"	60.0	42.0	21,150	REFORMATE/ETOH	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010	Jul-10	Installation Complete
36	TK-3	1965	4,000	30'-0"	32'-0"	30.0	32.0	4,029	87.0 OCTANE	2010	2015	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2015	Feb-10	Installation Complete
37	TK-1	1965	3,000	30'-0"	24'-0"	30.0	24.0	3,021	DIESEL	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016	Feb-10	Installation Complete
38	TK-705	1963	10,000	47'-4"	31'-1"	47.3	31.1	9,741	FUEL OIL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012	Jul-10	Installation Complete
39	TK-27	1979	5,000	33'-5"	32'-0"	33.4	32.0	4,998	PROCESS/ STORM WATER	2012	2017	Cone	Single	Nov-10	Soil/LDPE	Yes	n/a	future	YES	2010	Dec-10	Installation Complete
40	TK-28	1979	5,000	33'-5"	32'-0"	33.4	32.0	4,998	PROCESS/ STORM WATER	2012	2017	Cone	Single	Nov-10	Soil/LDPE	Yes	n/a	future	YES	2010	Dec-10	Installation Complete
41	TK-35	2010	30,000	78'-0"	32'-0"	78.0	28.0	23,829	PROCESS/ STORM WATER	2015	2020	Cone	Double	Dec-10	Soil/LDPE	Yes	n/a	future	YES	2010	Dec-10	Installation Complete
42	TK-569	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	83.O UNLD. REG.	2012	2017	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2017	Apr-10	Installation Complete

Western Refining

GALLUP REFINERY STORAGE TANK TABLE

Count #	TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	TANK DIAMETER	TANK HEIGHT/ LENGTH	Dia - ft	Height (ft)	Volume (bbls) Calculated from	PRODUCT	NEXT EXTERNAL INSPEC.	NEXT INTERNAL INSPEC.	TANK STYLE	FLOOR STYLE		CONTAINMENT STYLE	Compacting of Soils or Concrete Containment by 10/1/09 IF Action is Required			Auto Tank Gauging System (>10,000 gallons) if Hydrocarbon or Chemical Storage			Comments on Work Progress as of January 28,2009
													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
									2011													
43	TK-703	1963	25,000	67'-0"	39'-8"	67.0	39.7	24,907	RESIDUE/FCC FEED	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009		delayed -Tank must be out of service to
44	TK-235	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
45	TK-337	1977	20,000	60'-0"	42'-0"	60.0	42.0	21,150	ETHANOL	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		
46	TK-448	1957	1,373	11'-9"	LTH-71'-1"	11.8	71.1	1,373	ISO-BUTANE	2010	2010	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
47	TK-570	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	87.0 UNLD REG.	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
48	TK-576	1968	40,000	85'0"	40'-0"	85.0	40.0	40,425	PREMUM BASE	2010	2010	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2010		In Progress
49	TK-108	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	ALKLATE	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
50	TK-342	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	ETHANOL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
51	TK-706	1963	10,000	47'-5"	32'-1"	47.4	32.1	10,090	FUEL OIL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
52	TK-707	1963	1,000	26'-6"	17'-7"	26.5	17.6	1,727	SLOP OIL	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
53	TK-714	1969	30,000	73'-4"	40'-0"	73.3	40.0	30,090	FCC FEED	2011	2011	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
54	Z81-T10	1957	63	5'-0"	18'-0"	5.0	18.0	63	CAUSTIC	2011	2011	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
55	Z81-T6	1962	880	20'-6"	17'-6"	20.5	17.5	1,029	DOMESTIC WATER	2011	2011	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
56	A-V61.1		140	8'-0"	16'-0"	8.0	16.0	143	CAUSTIC	2011	2011	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2012													
57	TK-701	1963	37,000	88'-6"	33'-10"	88.5	33.8	37,067	FCC FEED	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
58	Q-T6		29,800	63'-5"	53'-0"	63.4	53.0	29,814	DRAIN HOLDING TK	2012	2012	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
59	TK-557	1957	718	9'-2 3/4 "	LTH-53'-10"	9.2	53.8	641	PROPANE	2012	2012	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2012		
60	TK-702	1963	25,000	67'-0"	40'-5"	67.0	40.4	25,378	FCC FEED	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012		
61	TK-709	1963	1,000	22'-6"	14'-9"	22.5	14.8	1,045	RESIDUE	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012		
62	Z81-T15		80	5'-7.75'	18'-0"	5.6	18.0	80	DIESEL	2012	2012	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
63	Z84-T105	2001	400	12'-0"	20'-0"	12.0	20.0	403	SLOP OIL	2012	2012	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2012		
64	Z86-T1	1966	5,000	30'-0"	40'-0"	30.0	40.0	5,036	RAW WATER	2012	2012	Cone	Single		Soil/Gravel	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
65	Z86-T2	2002	10,832	44'-0"	40'-0"	44.0	40.0	10,832	RAW WATER	2012	2012	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
66	Foam Tk		10	36"	7'-0"	3.0	7.0	9	Fire Fighting Foam Concentrate	2012	2012	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
67	SR-T10		20	48"	8'-10"	4.0	8.8	20	CA-299 SETTLING AGENT	2012	2012	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2013													
68	SR-T4	1992	106	10'-4"	7'-1"	10.3	7.1	106	IRON CHELATE SOLUTION	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
69	SR-T5	1992	76	6'-0"	15'-2"	6.0	15.2	76	IC-110 IRON CHELATE	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
70	SR-T6	1992	76	6'-0"	15'-2"	6.0	15.2	76	IC-210 FREE CHELATE	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
71	SR-T7	1993	3	30"	3'-6"	2.5	3.5	3	Caustic	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
72	SR-T8	1993	20	48"	8'-10"	4.0	8.8	20	CA-100 INHIBITOR	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
73	SR-T9	1993	20	48"	8'-10"	4.0	8.8	20	CA-2102 SETTLING AGENT	2013	2013	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
74	TK-231	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
75	TK-232	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	TRANSMIX	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
76	TK-338	1964	25,000	67'-0"	40'-0"	67.0	40.0	25,117	SWEET NAPHTHA	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
77	TK-571	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	87.0 UNLD REG.	2013	2013	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2013		
78	TK-704	1963	10,000	47'-4"	32'-2"	47.3	32.2	10,081	FUEL OIL	2009	2009	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2009 move to 2014		delayed -Tank must be out of service to install nozzles.
79	TK-107	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	SLOP OIL	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2014		
80	TK-227	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	K-1	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2014		
81	TK-344	1977	20,000	60'-0"	42'-0"	60.0	42.0	21,150	REFORMATE	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2011		
82	TK-561	1957	2,300	11'-9"	LTH-69'-11"	11.8	69.9	1,350	BUTANE	2009	2014	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2014		
83	TK-572	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	87.0 UNLD REG.	2009	2014	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2014		
84	Z81-T20		22	60"	6'-4"	5.0	6.3	22	TRI-ACT® 1820	2009	2014	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
85	Z81-V11		63	5'-0"	18'-0"	5.0	18.0	63	CAUSTIC	2009	2014	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required

GALLUP REFINERY STORAGE TANK TABLE

Count #	TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	TANK DIAMETER	TANK HEIGHT/ LENGTH	Dia - ft	Height (ft)	Volume (bbls) Calculated from	PRODUCT	NEXT EXTERNAL INSPEC.	NEXT INTERNAL INSPEC.	TANK STYLE	FLOOR STYLE		CONTAINMENT STYLE	Compacting of Soils or Concrete Containment by 10/1/09 IF Action is Required			Auto Tank Gauging System (>10,000 gallons) if Hydrocarbon or Chemical Storage			Comments on Work Progress as of January 28,2009
													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
									2015													
86	FW Pp Fuel		12	3'-11-1/2"	5'-7"	4.0	5.6	12	Diesel for Fire Water Pump	2010	2015	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
87	Mercaptan		12	36"	9'-9"	3.0	9.8	12	Mercaptan	2010	2015	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
88	TK-554	1974	2,073	131.875"	LTH-122'8 1/2"	11.0	122.7	2,073	BUTANE/PROPANE	2010	2015	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	YES	2015		
89	TK-574	1968	40,000	85'-0"	40'-0"	85.0	40.0	40,425	ST.RUN	2010	2015	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2015		
90	TK-902		237	10'-0"	17'-0"	10.0	17.0	238	Additive Tk. (Western)	2010	2015	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
91	TK-909		5	30"	6'-0"	2.5	6.0	5	Power Service	2010	2015	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
92	Z71-V2	1987	453	94.4375'	LTH-44'-5"	7.9	52.3	453	ANHYDROUS AMMONIA	2010	2015	Bullet	Elevated	n/a	Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
93	Z75-V2	1998	168	10'-0"	12'-0"	10.0	12.0	168	HYDROCARBON VAPORS	2010	2015	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
94	Z81-T7	1998	920	20'-5"	15'-8"	20.4	15.7	913	BRINE WATER	2010	2015	Cone	Single		Concrete	No	n/a	n/a	YES	2015		
95	Z88-V16	2000	55	6'-0"	11'-0"	6.0	11.0	55	RO WATER	2010	2015	Cone	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
96	Z88-V17	2000	55	6'-0"	11'-0"	6.0	11.0	55	RO WATER	2010	2015	Cone	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
									2016													
97	SWS-TK1	2006	1,000	15'5"	30'-0"	15.4	30.0	997	SOUR WATER	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
98	TK-101	1957	80,000	110'-0"	48'-0"	110.0	48.0	81,242	CRUDE	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
99	TK-111	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
100	TK-112	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
101	TK-116	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	DHT PRODUCT	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
102	TK-225	1957	25,000	67'0"	40'-0"	67.0	40.0	25,117	DISTILLATE	2011	2016	Cone	Double	Jul-06	Soil/Gravel	Yes	9/'09	n/a	YES	2016		
103	TK-226	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	KERSOSENE	2011	2016	Cone	Double	May-06	Soil/Gravel	Yes	9/'09	n/a	YES	2016		
104	TK-339	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	SOUR NAPHTHA	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
105	TK-568	1998	2,000	25'-0"	24'-0"	25.0	24.0	2,098	AMMONIUM THIOSULFATE	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
106	TK-577	1957	10,000	42'-6"	40'-0"	42.5	40.0	10,106	DIESEL	2011	2016	Cone	Double	Aug-08	Soil/Gravel	Yes	9/'09	n/a	YES	2016		
107	TK-579	1957	20,000	60'-0"	40'-0"	60.0	40.0	20,143	DIESEL	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
108	TK-582	1957	25,000	67'-0"	40'-0"	67.0	40.0	25,117	UNLEADED PREMUM	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2016		
109	TK-708	1963	1,000	22'-6"	14'-11"	22.5	14.9	1,056	Residue	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
110	Z71-TK-716	2006	997	15'5"	30'-0"	15.4	30.0	997	AMMONIUM THIOSULFATE	2011	2016	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	NO	n/a	n/a	no level gauge work required
									2017													
111	TK-343	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	ETHANOL	2013	2018	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2008 moved to 2017		Needs to be rescheduled to next internal inspection.
112	A-V59	1958	164	84"	24"-0"	7.0	24.0	164	Baume/Caustic	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
113	TK-562	1986	20,000	60'-0"	46'-6"	60.0	46.5	23,416	ISOMERATE	2012	2017	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2017		
114	TK-583	1996	55,000	100'-0"	40'-0"	100.0	40.0	55,952	DIESEL	2012	2017	Cone	Sec.		Soil/Gravel	Yes	9/'09	n/a	YES	2017		
115	TK-6	1963	1,800	21'-6"	28'	21.5	28.0	1,810	LT STRAIGHT RUN	2012	2017	Cone	Single		Soil/Gravel	Yes	9/'09	n/a	YES	2017		
116	TK-910		13	54"	4'-9"	4.5	4.8	13	Red Dye (Western)	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
117	Tk-915		50	52"	18'-7"	4.3	18.6	49	Diesel-Gasoline Blend	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	Yes	n/a	9/09	NO	n/a	n/a	no level gauge work required
118	Z75-V1	1998	168	10'-0"	12'-0"	10.0	12.0	168	HYDROCARBON VAPORS	2012	2017	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
119	Z81-T14		9	4'-0"	4'-0"	4.0	4.0	9	DIESEL	2012	2017	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
120	Z81-T5	1979	5,000	33'-5"	32'-0"	33.4	32.0	4,998	TREATED WATER	2012	2017	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
121	Z83-TK-3		161	8'-0"	18'-0"	8.0	18.0	161	Sulfuric Acid	2012	2017	Cone	Single		Concrete	Yes	n/a	9/09	NO	n/a	n/a	no level gauge work required
122	Z81-T16	1953	69	5'-7.75'	15'-8"	5.6	15.7	69	STARTING AIR	2012	2017	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
123	TK-901	3Pty	237	10'-0	17'-0"	10.0	17.0	238	Additive Tk. (Chevron)		3Pty	Cone	Single		Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
124	TK-903	3Pty	48	64"	12'-0"	5.3	12.0	48	Additive Tk. (Texaco)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
125	TK-906	3Pty	143	96"	16'-0"	8.0	16.0	143	Additive Tk. (Exxon)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
126	TK-911	3Pty	191	8'-0"	21'-4"	8.0	21.3	191	Add. Tk.(Conoco)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
127	TK-914	3Pty	191	96"	256"	8.0	21.3	191	Add. Tk. (Shell)		3Pty	Hor. Cyl.	Elevated	n/a	Concrete	No	n/a	n/a	NO	n/a	n/a	no level gauge work required
128	TK-117	1983	250	10'-0"	17'-9"	10.0	17.8	248	OUT OF SERVICE (De-Icer)		OOS	Cone	Double		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
129	Q-T3		671	20'-0"	12'-0"	20.0	12.0	671	OUT OF SERVICE (Caustic)	DEC-'08	OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required

Western Refining

GALLUP REFINERY STORAGE TANK TABLE

Count #	TANK NUMBER or DESCRIPTION	YEAR BUILT	APPROX. CAPACITY (BBLS)	TANK DIAMETER	TANK HEIGHT/ LENGTH	Dia - ft	Height (ft)	Volume (bbls) Calculated from	PRODUCT	NEXT EXTERNAL INSPEC.	NEXT INTERNAL INSPEC.	TANK STYLE	FLOOR STYLE		CONTAINMENT STYLE	Compacting of Soils or Concrete Containment by 10/1/09 IF Action is Required			Auto Tank Gauging System (>10,000 gallons) if Hydrocarbon or Chemical Storage			Comments on Work Progress as of January 28,2009
													as of 9/08	Double Floor Installed mo/yr	As of 9/08	Is Action Required?	Date Soil Compaction Completed	Date Concrete Completed	Required To Install (yes/no)	Original Estimated date for Completion	Actual date completed	
130	Z81-T17		161	8'-9"	15'-0"	8.8	15.0	161	OUT OF SERVICE (Water Softner)		OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
131	Z81-T8		250	11'-0"	15'-0"	11.0	15.0	254	OUT OF SERVICE (Fuel Oil)		OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
132	TK-451	1957	1,000	21'-3"	16'-0"	21.3	16.0	1,011	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
133	TK-452	1957	1,000	21'-3"	16'-0"	21.3	16.0	1,011	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
134	TK-453	1957	5,000	33'-6"	32'-0"	33.5	32.0	5,023	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
135	TK-573	1957	250	10'-0"	18'-0"	10.0	18.0	252	OUT OF SERVICE (Kerosene)		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
136	TK-713		1,000	22'-6"	14'-9"	22.5	14.8	1,045	OUT OF SERVICE		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
137	TK-905		232	94"	27'-1"	7.8	27.1	232	Add. Tk (Empty-Unocal)		OOS	Hor. Cyl.	Elevated	n/a	Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
138	TK-907		25	48"	11'-0"	4.0	11.0	25	EMPTY TANK		OOS	Hor. Cyl.	Elevated	n/a	Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
139	TK-7135		16	53"	6'-0"	4.4	6.0	16	EMPTY TANK (UNICHEM 7376)		OOS	Cone	Single		Concrete	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required
140	Z81-T11		161	8'-0"	18'-0"	8.0	18.0	161	EMPTY TANK		OOS	Cone	Single		Soil/Gravel	OOS	n/a	n/a	OOS	n/a	n/a	no level gauge work required