GW - 014

GENERAL CORRESPONDENCE

2008 - Present

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, February 14, 2012 2:45 PM
To: Lackey, Johnny
Subject: OCD February 9, 2012 Letter w/ Reference to GW-032

Johnny:

Good afternoon. I was not involved in the review of the above subject letter that included GW-032, but please disregard the reference to GW-032. The OCD meant to only address GW-014 under Navajo.

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)

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary

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

Jami Bailey
Division Director
Oil Conservation Division

FEBRUARY 9, 2012

Mr. Johnny Lackey
Senior Environmental Manager
The Holly Frontier Companies
P.O. Box 159
501 E. Main St.
Artesia, NM 88211-0159

Dear Mr. Lackey:

Based on your responses given in the "Oil & Gas Facilities Questionnaire for Determination of a WQCC Discharge Permit" and a file review, the Oil Conservation Division (OCD) has determined that two of your facilities with an expired or soon to be expired permit are not required to operate under a Water Quality Control Commission (WQCC) Discharge Permit. This means that the WQCC Discharge Permit for GW-014 (Lovington Refinery) [redacted] hereby rescinded and you are not required to proceed with the renewal of these expired WQCC Discharge Permit. OCD will close these discharge permits in its database.

Previously, Navajo Refining has conducted abatement of ground water contamination at these facilities under the authority of its WQCC Discharge Permits, pursuant to 20.6.2.4000 NMAC (PREVENTION AND ABATEMENT OF WATER POLLUTION). OCD has determined that Navajo does not intentionally discharge at these two facilities; therefore, no WQCC Discharge Permit is required. However, because of existing ground water contamination at these facilities, OCD is requiring Navajo to continue to abate pollution of ground water pursuant to 19.15.30 NMAC (REMEDIATION). The new Abatement Plan case number for the former GW-014 site is **AP-110**. [redacted]
Please use these Abatement Plan case numbers in all future correspondence.

Because these WQCC Discharge Permits will now longer be in effect, you may be required to obtain separate OCD permit(s) for other processes at your facility, such as: pits, ponds, impoundments, below-grade tanks; waste treatment, storage and disposal operations; and landfarms and landfills. OCD will determine if any of these existing processes may require a separate permit under OCD's Oil, Gas, and Geothermal regulations. If OCD determines that a separate permit(s) is required, then a letter will be sent to you indicating what type of permit is required.

Please keep in mind, if your facility has any discharges that would require a WQCC Discharge Permit now or in the future, then you will be required to renew or obtain a WQCC Discharge Permit.

If you have any questions regarding this matter, please contact Glenn von Gonten at 505-476-3488.

Thank you for your cooperation.

Jami Bailey
Director

JB/gvg

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Previously, Navajo Refining has conducted abatement of ground water contamination at these facilities under the authority of its WQCC Discharge Permits, pursuant to 20.6.2.4000 NMAC (PREVENTION AND ABATEMENT OF WATER POLLUTION). OCD has determined that Navajo does not intentionally discharge at these two facilities; therefore, no WQCC Discharge Permit is required. However, because of existing ground water contamination at these facilities, OCD is requiring Navajo to continue to abate pollution of ground water pursuant to 19.15.30 NMAC (REMEDIATION). The new Abatement Plan case number for the former GW-014 site is **AP-110**. The new Abatement Plan case number for the former GW-032 site is **AP-111**. Please use these Abatement Plan case numbers in all future correspondence.

Because these WQCC Discharge Permits will now longer be in effect, you may be required to obtain separate OCD permit(s) for other processes at your facility, such as: pits, ponds, impoundments, below-grade tanks; waste treatment, storage and disposal operations; and landfarms and landfills. OCD will determine if any of these existing processes may require a separate permit under OCD's Oil, Gas, and Geothermal regulations. If OCD determines that a separate permit(s) is required, then a letter will be sent to you indicating what type of permit is required.

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If you have any questions regarding this matter, please contact Glenn von Gonten at 505-476-3488.

Thank you for your cooperation.

Jami Bailey
Director

JB/gvg

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, September 09, 2011 11:51 AM
To: Moore, Darrell
Cc: Lackey, Johnny; Brooks, David K., EMNRD
Subject: Artesia (GW-028) and Lovington (GW-014) Refineries and Ownership Inquiry

Darrell

Good morning. I've notice the change to your e-mail address from "hollycorp" to "hollyfrontier" based on a recent corporate merger I believe?

Has there been a transfer of ownership? Please provide documentation of merger to the OCD for a determination of whether a transfer of ownership has occurred under the discharge permit by COB Friday, September 16, 2011.

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
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Cabinet Secretary-Designate

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

Jami Bailey
Division Director
Oil Conservation Division

July 22, 2011

Mr. Michael Leighton, City Manager
City of Lovington
P.O. Box 1268
Lovington, New Mexico 88260

Re: Navajo Refining - Lovington Refinery Discharge Permit (GW-014) Renewal

Dear Mr. Leighton:

The New Mexico Oil Conservation Division (OCD) is in receipt of a Discharge Permit renewal application for Navajo's Lovington refinery. The Discharge Permit expires on October 30, 2011, and OCD is preparing a new draft Discharge Permit pursuant to the WQCC Regulations.

OCD staff and I attempted to contact you on Friday, July 22, 2011, to discuss OCD's new Discharge Permit language. OCD will remove all references in the new Discharge Permit to the City of Lovington (City). You may recall that the City became involved with Navajo's current Permit because the refinery overlies the City's Well Head Protection Area (WHPA).

However, this letter serves to inform the City that OCD has reassessed it regulatory responsibilities under the WQCC Regulations and has determined that it cannot legally include the City in drafting the new Discharge Permit

Please contact me or Mr. Carl Chavez of my staff at (505) 476-3490 if you have questions. Thank you.

Sincerely,

Jami Bailey,
OCD Director

xc: Johnny Lackey, Navajo Refining Company
OCD Environmental Bureau
OCD District Office

Chavez, Carl J, EMNRD

From: Moore, Darrell [Darrell.Moore@hollycorp.com]
Sent: Wednesday, November 10, 2010 9:12 AM
To: Chavez, Carl J, EMNRD
Cc: Lackey, Johnny; mleighton@lovington.org
Subject: Lovington Permit Response
Attachments: Lovington Aerial.pdf; Lovington Waste Pad.JPG; Cement Pad-Lovington.JPG; Lovington Septic Systems.pdf; Lovington Underground Line tests.pdf; LEA SEWER TESTING.xls

Carl,

Our submittal to your requests from our meeting of October 6, 2010 is included. I have broken down the requests into the two Discharge Permits GW-014 and GW-028 and will address them in two separate emails. In your email of October 12, 2010 there are some misunderstandings regarding the two permits and I will point those out below.

NAVAJO LOVINGTON REFINERY REQUESTS

The operator installed new hazardous waste storage area at the facility that was not required under the discharge permit. Since this area could be used to temporarily store oilfield products, etc, please provide location and photo(s) of this storage area. **Attached above, labeled "Lovington Waste Pad" is a photo of the pad. Also, on the attachment above labeled "Lovington Aerial" the waste pad is labeled.**

Installed cement containment areas approved by the OCD to control releases from areas where spills would most likely be expected. Provide OCD with map of location and photos. **Attached above, labeled "Cement pad_lovington" is a photo of the new cement area. Also, on the aerial of Lovington, the cement pad is marked.**

Status of sanitary effluent: Installed recent septic systems under NMED permit at facility. Provide OCD with documentation that work was completed with tank specs and materials used, etc. **In the attachment above labeled "Lovington Septic Systems", all the documentation from this project is included.**

Section 13A: The submittal of all underground process/waste water lines documentation, since the permit was issued is requested. **Attached and labeled "Lovington Underground Line Tests" is the documentation for process lines. Also attached, labeled "Lea Sewer Testing" is the documentation for the sewer testing done this permit. We are currently testing lines at Lovington and those results will be available by December 1, 2010 if OCD would like to see those.**

Section 14 & 17(iii): Septic system upgrade status and proof of permit application from NMED for control room septic system installed 6 or 9/2009 is requested. According to Operator, this information has already been provided, but OCD could not locate. OCD does not have a record of this in its files. Please submit proof of permit application with NMED. **This was answered above.**

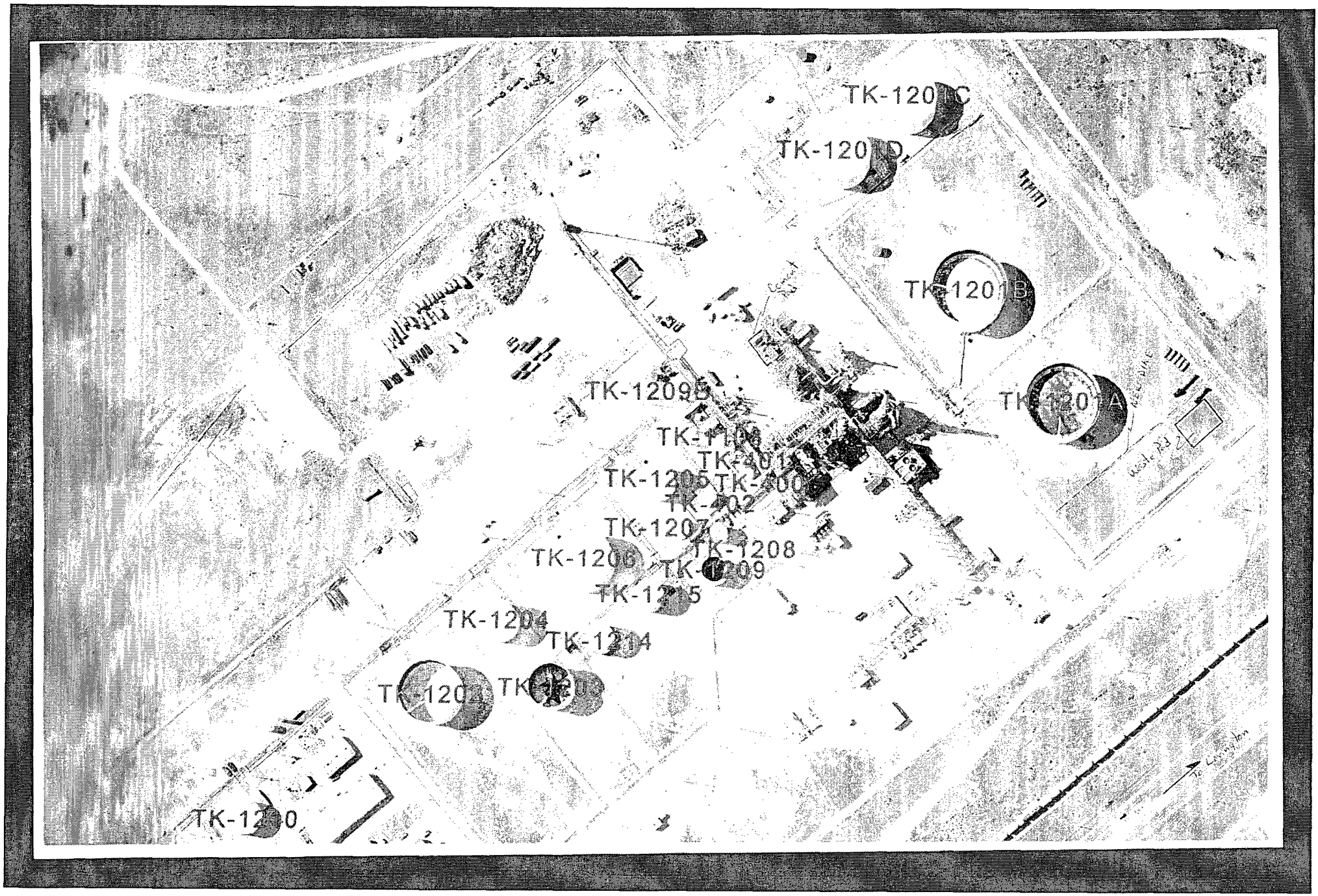
OCD requests that the map be updated for the final report to include: new tanks, secondary containment areas, hazardous waste storage area, and centralized chemical storage area(s). **This will be updated in the report that is due November 15, 2010.**

Section 24: The financial assurance (FA) deadline of 9/30/2009 was missed. OCD verified that the FA was for facility decommissioning and 30 year post ground water monitoring period. OCD requires that

similar to the Lovington Refinery, the operator shall submit an FA estimate to the OCD by December 31, 2010 for OCD review and a determination of final bond amount to satisfy this section of the permit. A bond submittal shall be submitted within 1 month of the OCD final assessed amount. **We believe this is for the Artesia facility and is not applicable to Lovington. The Lovington FA has been submitted to OCD.**

OCD inquired about two potential spill locations from a recent Google Earth GIS view of the facility near Tank 1214 and southeast of MW-2. OCD Requests that the operator inspect these areas to verify that spills/releases exist or are not present in the field. The operator should respond to this item within 4 weeks of the meeting date or by COB on November 5, 2010. **On November 3, 2010, Johnny Lackey and Darrell Moore inspected both of these locations and verified that there are no spills in these areas.**

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451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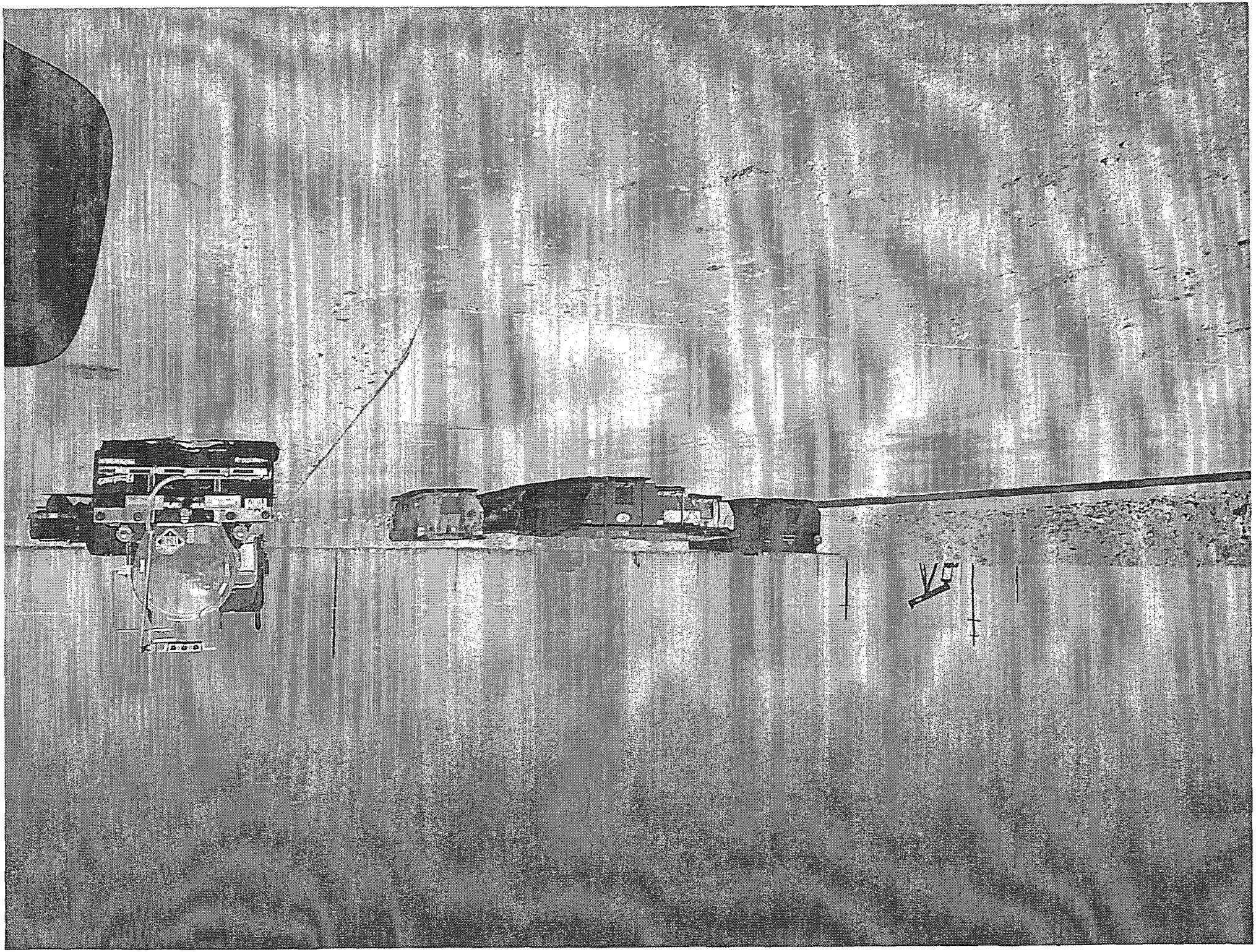

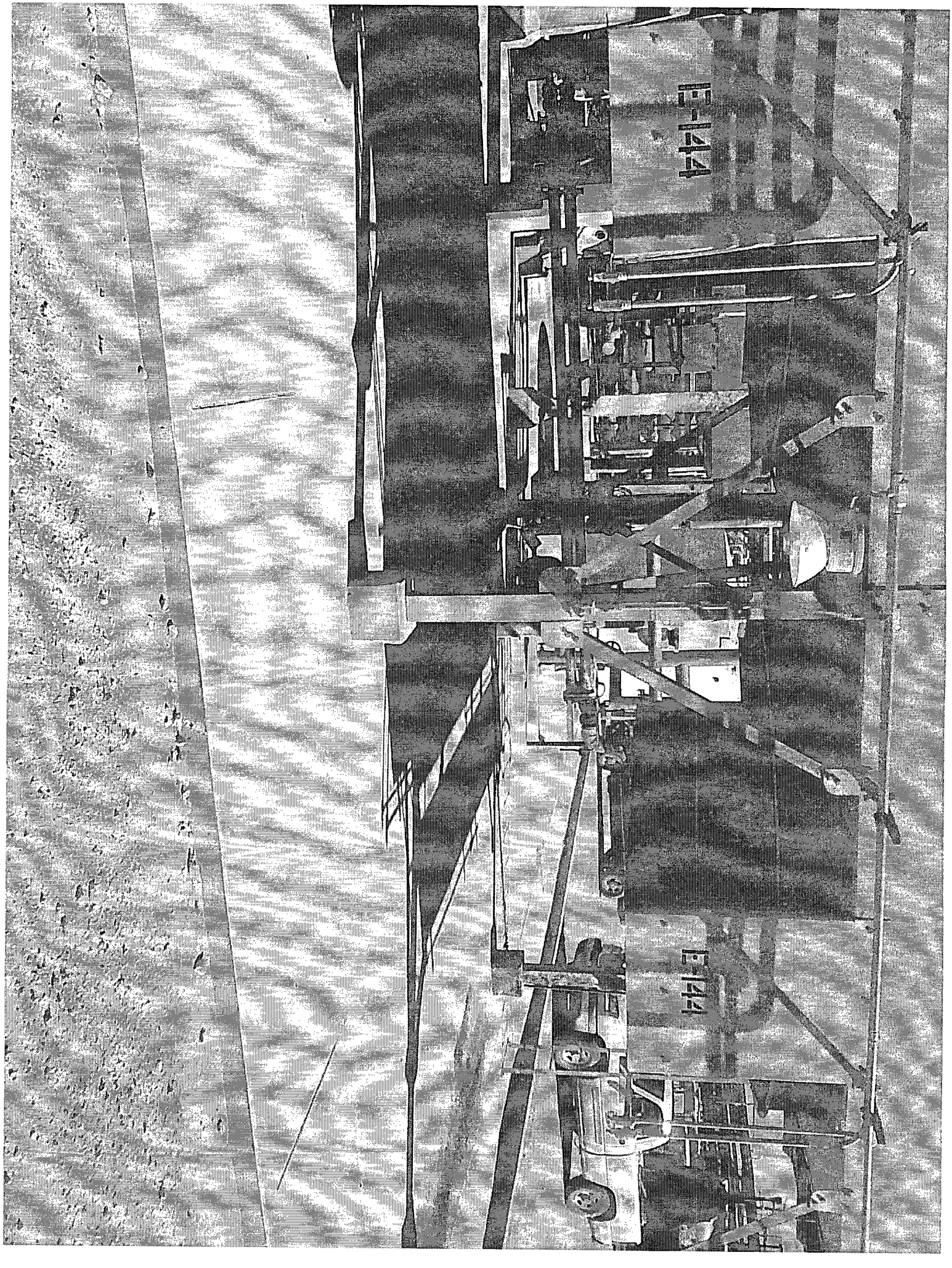

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, September 24, 2010 9:54 AM
To: Hill, Larry, EMNRD; Dade, Randy, EMNRD; Perrin, Charlie, EMNRD
Cc: VonGonten, Glenn, EMNRD
Subject: Refinery Meetings in Santa Fe October 6, 2010

Hey guys.

Just wanted to let you know OCD- SF is meeting with Navajo Refining Company (NRC) and Western Refining SW, Inc. (Western) on the above subject date in case you would like to participate by telephone conference. OCD- SF will go over the discharge permit with operators to make sure we are moving forward to address the permit. OCD- SF is under travel restriction; thus, meetings to discuss facility issues makes sense at this time.

The meetings are as follows:

1) NRC from 10 to Noon: Lovington or Lea Refinery- GW-014 (particularly interested in the environmental site investigation and GW quality information from the recently installed series of MWs) at the facility within Lovington's Well Head Protection Area.

   An agenda item for the NRC- Artesia Refinery (GW-028) is included in this meeting, but another meeting to discuss the permit in more detail will likely be scheduled at a later date. Some current issues are: free-product recovery system is down and a work plan will be submitted by 11/2010 to construct a functional system for product recovery. Issues with the effluent line east of the facility, across Pecos River and to their 3 UIC Class I (NH) disposal wells. Randy Dade will be inspecting the line, recent releases with repair, hydrostatic testing requirements, and requesting a work plan for complete replacement of the effluent line by March of 2011. The Artesia refinery was assessed a fine by NM OSHA for over $700K for the March 2010 tank explosion that resulted in loss of life of 2 workers from TX.

2) Western from 1 to 3 p.m.: Gallup Refinery- GW-028 (particularly interested in the tank construction, waste water pond construction and any permit deadlines). Facility-Wide GW Monitoring Plan will replace the GW sampling portion of the permit in the upcoming renewal of the discharge permit. The refinery is installing a new waste water treatment system for the refinery under an EPA CAFO.

A request for a meeting on Western's Bloomfield Refinery- GW-001 was made today. There is a UIC Class I (NH) Well within the facility (UICI-009) where a hearing request was received on the discharge permit renewal and the Director is currently assessing the hearing request. Bloomfield was allowed to idle or shut-in operations under a recently issued discharge permit renewal. The bulk storage and transportation units are in operation and the UIC Class I well is used for disposal of recovered product behind the remediation barrier wall and the river. The voluntary biovent remediation project at the river terrace is still in progress with ground water and surface quality monitoring.

Let me know if you want to listen in and participate or if you have any issues that OCD-SF needs to discuss during the meetings that would work too. Please contact me if you have questions or wish to discuss any issues you may have before the meeting.

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
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 10, 2010 8:56 AM
To: 'Moore, Darrell'
Cc: Michael Leighton; Lackey, Johnny; Hill, Larry, EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Lovington Discharge Plan

Darrell, et al.:

OCD is working to setup a meeting on the Lovington Refinery on Wednesday, September 1, 2010. Instead of September 1, 2010, how about a meeting to discuss the discharge permit and the new investigation report on Wednesday, October 6, 2010?

Let me know. Thanks for update.

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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Tuesday, August 10, 2010 8:22 AM
To: Chavez, Carl J, EMNRD
Cc: Michael Leighton; Lackey, Johnny
Subject: Lovington Discharge Plan

Carl

1. All 15 of the new monitor wells were installed by June 15, 2010.

2 Drilling of 15 additional boreholes to a depth of 105-110 ft. as required by OCD was completed on June 28. There were 4 borings drilled in the vicinity of the crude manifold area and 11 drilled in the area of the wastewater separator. The final soil analytical reports for these borings were received July 20.

3. Development of the new monitor wells occurred beginning July 6 and was completed the following week.

4. A professional surveyor located wells and surveyed elevations the week of July 12 and provided the results the week of July 19.

5. Our deep well purge pump was sent to the shop the week of July 19 for repairs. After two weeks of testing and no diagnosis as to what the problem is, we rented one which arrived August 6, 2010. We will begin the semi-annual sampling of the 29 monitor wells and 3 water wells this week (midweek). I expect it will take at least until Monday or Tuesday of the following week to complete the sampling. Sample results should be received around the end of the month.

6. Remaining hydrologic field work includes an aquifer test which will most likely be conducted at the end of the month.

Based on all the remaining work, including preparation of maps, tables of results of soil analytical testing, water levels and water quality results, boring and well logs, and aquifer test analysis, we should have a prepared report by September 30 for submittal to OCD and the City of Lovington.

The soil analytical results, with just a few exceptions in the area of the wastewater separator, show no contamination of subsurface material from surface to groundwater. No hydrocarbon product or hydrocarbon odor was observed in any of the new monitor wells. And even in the area of the wastewater separator no oil-saturated soil was found. The entire facility is very clean and I expect the groundwater sampling to show confirm that with the possible of exception of known benzene in MW-11 and chlorides from non-refinery sources in a couple of monitor wells. There is nothing new and no "smoking gun" in anything found to date.

If anyone from OCD or the City would like to witness the sampling this week (starting tomorrow Wednesday) you are more than welcome.

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, July 28, 2010 8:50 AM
To: 'Lackey, Johnny'
Cc: 'Michael Leighton'
Subject: Lovington Refinery (GW-014) Update

Johnny:

Could you please give the agencies an update on the ground water and soil investigation and any applicable discharge permit items for the Lovington Refinery. I haven't heard or received anything.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
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(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, May 24, 2010 11:34 AM
To: 'Moore, Darrell'; Michael Leighton
Subject: Lovington Refinery Construction of Controls in Process Area (GW-014)

Approved, with the condition that OCD be notified before construction over any old structures, tank locations, etc. that would inhibit remedial work under OCD, etc. and facility diagrams shall be updated to reflect the location to scale of the structure.

Please be advised that OCD approval of this plan does not relieve Navajo Refining Company of responsibility should their operations pose a threat to ground water, surface wter, human health or the environment. In addition, OCD approval does not relieve Navajo Refinery Company of responsibility for compliance with any other federal, state, or local laws, and/or regulations.

Please contact me if you have questions. Thank you.

Approved, with the condition for fluids removal from sump be in accordance with the discharge permit and OCD be notified if construction is over an old structures, tank locations, etc. that would inhibit remedial work under OCD, etc. and facility diagrams shall be updated to reflect location to scale of structure.

Please be advised that OCD approval of this plan does not relieve Navajo Refining Company of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state, or local laws and/or regulations.

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From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Monday, May 17, 2010 2:43 PM
To: Chavez, Carl J, EMNRD; Michael Leighton
Subject: FW:

Carl

Attached, please find drawings and a site map showing cement controls that we are putting in on the northwest corner of the Process area at Lovington. These will tie into cement that is already in place to improve our ability to keep spills on cement and off bare ground.

We are planning on installing this cement near the end of this month (May).

Your attention is appreciated.

Darrell Moore
Environmental Manager for Water and Waste

From: Hernandez, Carrie
Sent: Monday, May 17, 2010 2:39 PM
To: Moore, Darrell
Subject:

Chavez, Carl J, EMNRD

From: Moore, Darrell [Darrell.Moore@hollycorp.com]
Sent: Monday, May 17, 2010 2:43 PM
To: Chavez, Carl J, EMNRD; Michael Leighton
Subject: FW:
Attachments: Lovington Controls.pdf

Carl

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Navajo Refining Company, LLC

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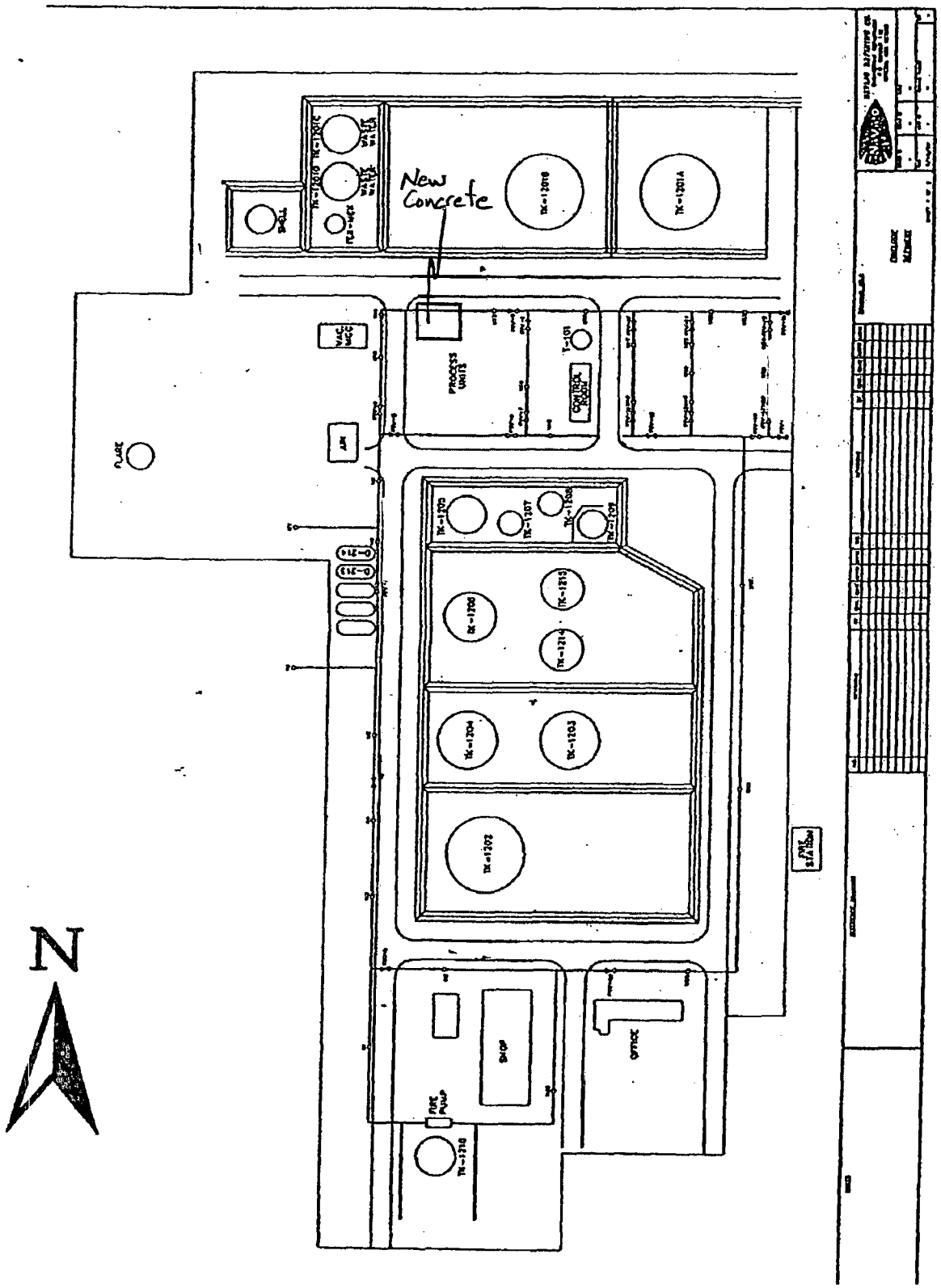
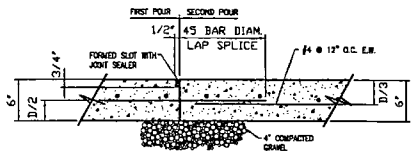
To: Moore, Darrell
Subject:

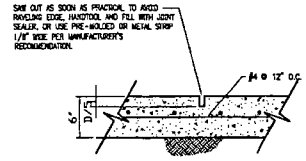


Navajo Refining Company
Lovington Refinery



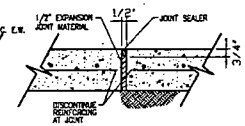
TYPICAL SLAB ON GRADE

CONSTRUCTION JOINT & CONTINUOUS REINFORCEMENT LOCATIONS



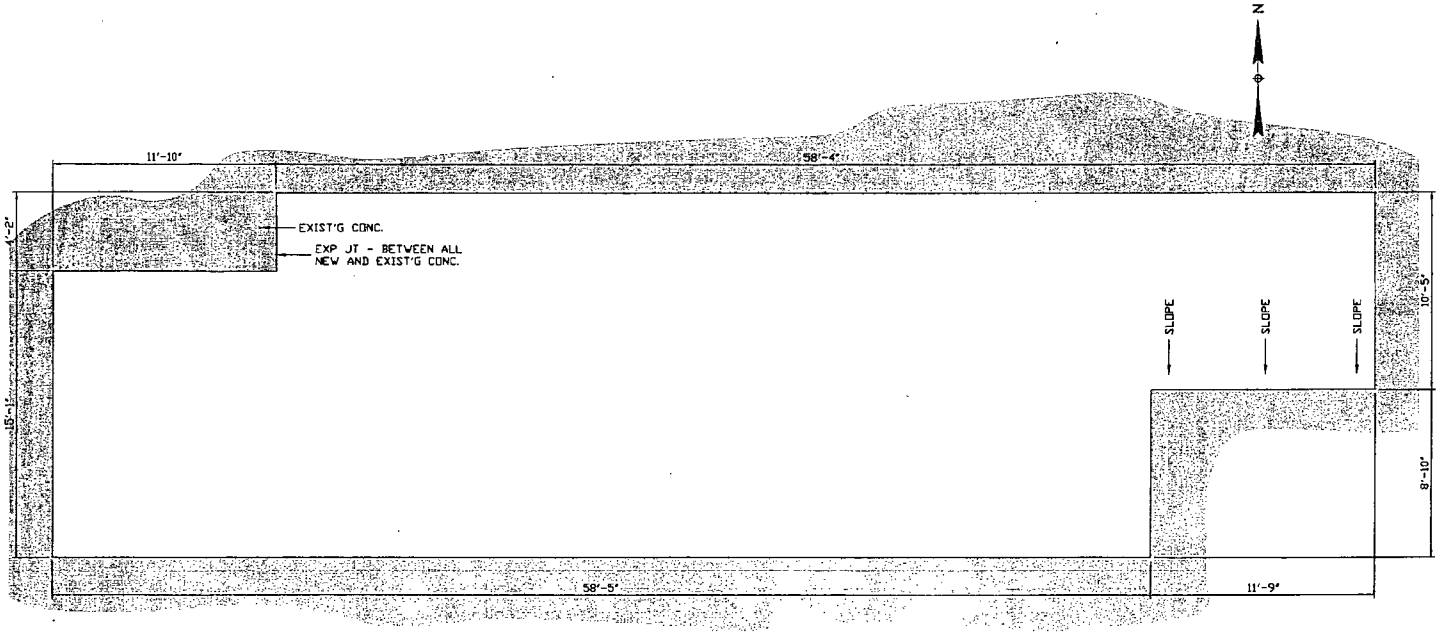
SLAB ON GRADE CONTROL JOINT

SPACE AS SHOWN ON DESIGN DRAWINGS



SLAB ON GRADE EXPANSION JOINT

USE BETWEEN ALL NEW AND EXIST'G CONCRETE



CIVIL/STRUCTURAL NOTES

A. GENERAL SITE INFORMATION

1. DESIGN CODE IBC-2003; OCCUPANCY CATEGORY I.I.I, SEISMIC USE CATEGORY I.I.
2. SNOW LOAD 10 PSF (GROUND SNOW); Is=1.0
3. WIND SPEED 80 MPH, EXPOSURE "C"; Iw=1.15
4. SEISMIC DESIGN PARAMETERS Ss=0.2; Fa=1.6; Sms=0.32; Sds=0.21 } SDC=B; Ie=1.25
   SITE CLASS D (ASSED) Sl=0.05; Fv=2.4; Sm1=0.12; Sd1=0.08

B. CIVIL WORK AND FOUNDATION CONSTRUCTION

1. EXCAVATION AND BACKFILL:
   A. ENTIRE AREA AROUND EACH FOUNDATION MUST BE THOROUGHLY PROBED FOR UNDERGROUND PIPE, CONDUIT, HIGH PRESSURE LINES, ETC., BEFORE ANY EXCAVATION IS BEGUN.
   B. STRUCTURAL BACKFILL SHALL CONSIST OF GRANULAR NON-EXPANSIVE SAND, GRAVEL AND SAND-GRAVEL MIXTURES, WITH PLASTICITY INDEX BELOW 12, WITH TOOS LESS THAN 4" SIZE ROCKS AND NAIL SIZE PASSING NO. 200 SIEVE. IT SHALL BE PLACED IN 6" MAX. LIFTS. STRUCTURAL FILL OR FOUNDATION AREAS SHOULD BE COMPACTED TO 95% OF THE ASTM D-1557 METH.
2. SUBGRADE CONDITIONS SHOULD BE INSPECTED BY A NME ENGINEER PRIOR TO PLACEMENT OF ANY CONCRETE. STRUCTURAL FILL SHALL BE INSPECTED AND TESTED.

C. CONCRETE

1. CONCRETE STRENGTH TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI-318, CHAPTER 5.
2. CONCRETE COMPRESSIVE STRENGTH (f'_c) @ 28 DAYS: 3000 PSI FOR ALL CONCRETE. CONCRETE MIX SHALL HAVE 0.45 MAX. WATER/CEMENT RATIO FOR THE CONCRETE REQ'D TO BE WATER-TIGHT AND 0.50 MAX FOR ALL OTHER CONCRETE. MAXIMUM CONCRETE MIX SLUMP SHALL NOT EXCEED 5".
3. USE TYPE II CEMENT FOR ALL CONCRETE UNLESS NOTED OTHERWISE ON DRAWINGS.
4. AGGREGATES SHALL BE CRUSHED STONE CONFORMING TO "SPECIFICATION FOR CONCRETE AGGREGATES" ASTM C33.
5. REINFORCING BARS SHALL BE DEFORMED, INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A615 INCLUDING SUPPLEMENTARY REQUIREMENTS S1, GRADE 60. FIELD SPLICES & DEVELOPMENT LENGTH SHALL COMPLY WITH THE FOLLOWING SCHEDULE, U.O.N.

REBAR SIZE	HOL	TCL TOP	TCL OTHER	TLS TOP	TLS OTHER
#4	7	29	19	32	25
#5	8	31	24	40	31
#6	10	37	28	48	37
#7	12	54	42	70	54
#8	13	62	47	80	62
#9	15	70	54	91	70
#10	17	78	60	102	78
#11	19	87	67	113	87

WHERE:
A. TCL = TENSION COMPRESSION LENGTH
   TLS = TENSION LAP SPLICE LENGTH
   HOL = HOOK DEVELOPMENT LENGTH
B. "TOP" BARS ARE ALL HORIZONTAL BARS SO PLACED THAT MORE THAN 12 IN. OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
C. ALL BARS THAT ARE NOT "TOP" BARS ARE "OTHER" BARS.

REINFORCEMENT SHALL BE INSPECTED BEFORE CONCRETE IS PLACED.

6. CONCRETE PROTECTION FOR REINFORCEMENT – CLEAR DISTANCE FROM FACE OF CONCRETE TO BAR SHALL BE AS FOLLOWS UNLESS NOTED:
   A. CONCRETE DEPOSITED AGAINST GROUND OR VOID FORM: 3".
   B. CONCRETE SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH GROUND AFTER REMOVAL OF FORMS: 1 1/2" FOR #6 BARS AND SMALLER, 2" FOR #6 THROUGH #18.
   C. SURFACES NOT EXPOSED TO GROUND OR WEATHER: 3/4" FOR SLABS AND WALLS WITH #11 AND SMALLER BARS, 1 1/2" FOR BEAMS AND COLUMNS.
7. EXPANSION JOINT MATERIAL FOR EXPANSION OR ISOLATION JOINTS SHALL BE PREMOLDED, BITUMINOUS IMPREGNATED FIBERBOARD CONFORMING TO ASTM D994.
8. JOINT SEALANT FOR ALL CONCRETE CONTROL, CONSTRUCTION AND ISOLATION JOINTS SHALL BE SIKAFLEX-1A BY SIKA CORP., OR APPROVED EQUAL.
9. VOID FORM MATERIAL SHALL BE BY "SURE VOID" OR APPROVED EQUAL. KEEP VOID FORM MATERIAL DRY DURING PLACEMENT & INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. VOID FORM SHALL BE BIODEGRADABLE AND CAPABLE OF SUPPORTING THE FLUID WEIGHT OF THE CONCRETE.
10. ALL WELDING PROCEDURES, EXCLUDING STUD WELDING, AND QUALIFICATIONS SHALL BE IN ACCORDANCE WITH AWS D1.1.
11. ALL SLABS SHALL BE GIVEN A FLOAT FINISH AS DESCRIBED IN ACI 301. ALL WALKS AND EXTERIOR SLABS SHALL BE BROOM FINISHED AFTER CONCRETE HAS RECEIVED A FLOAT FINISH.
12. EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS NOTED.
13. CHECK ALL ELECTRICAL, MECHANICAL AND PIPING DRAWINGS FOR EMBEDDED ITEMS (PIPE, CONDUIT, ETC.) AND BLOCKOUTS BEFORE PLACING CONCRETE.

NOTES

REFERENCE DRAWINGS

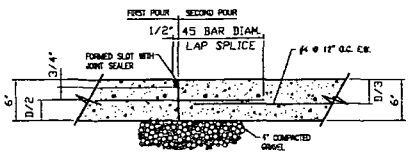
NO.	REVISIONS	BY	CHK	DATE	APPR.	APPR.
A	ISSUED FOR B/C	S.W.	JR	4/23/10	JR	

DRAWING TITLE

UNIT 81
SOUTH OF HEATER
CONCRETE

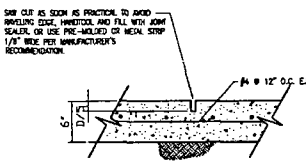
NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
S.W.	JR	SCALE = NONE
DATE	APP'D BY	DRAWING NUMBER / REV.
4/23/10	JR	81-12-D-02 / A



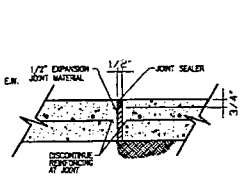
TYPICAL SLAB ON GRADE

CONSTRUCTION JOINT & CONTINUOUS REINFORCEMENT LOCATIONS



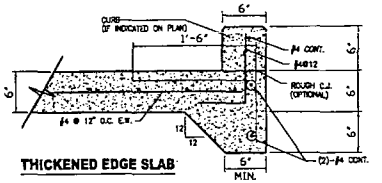
SLAB ON GRADE CONTROL JOINT

SPACE AS SHOWN ON DESIGN DRAWINGS

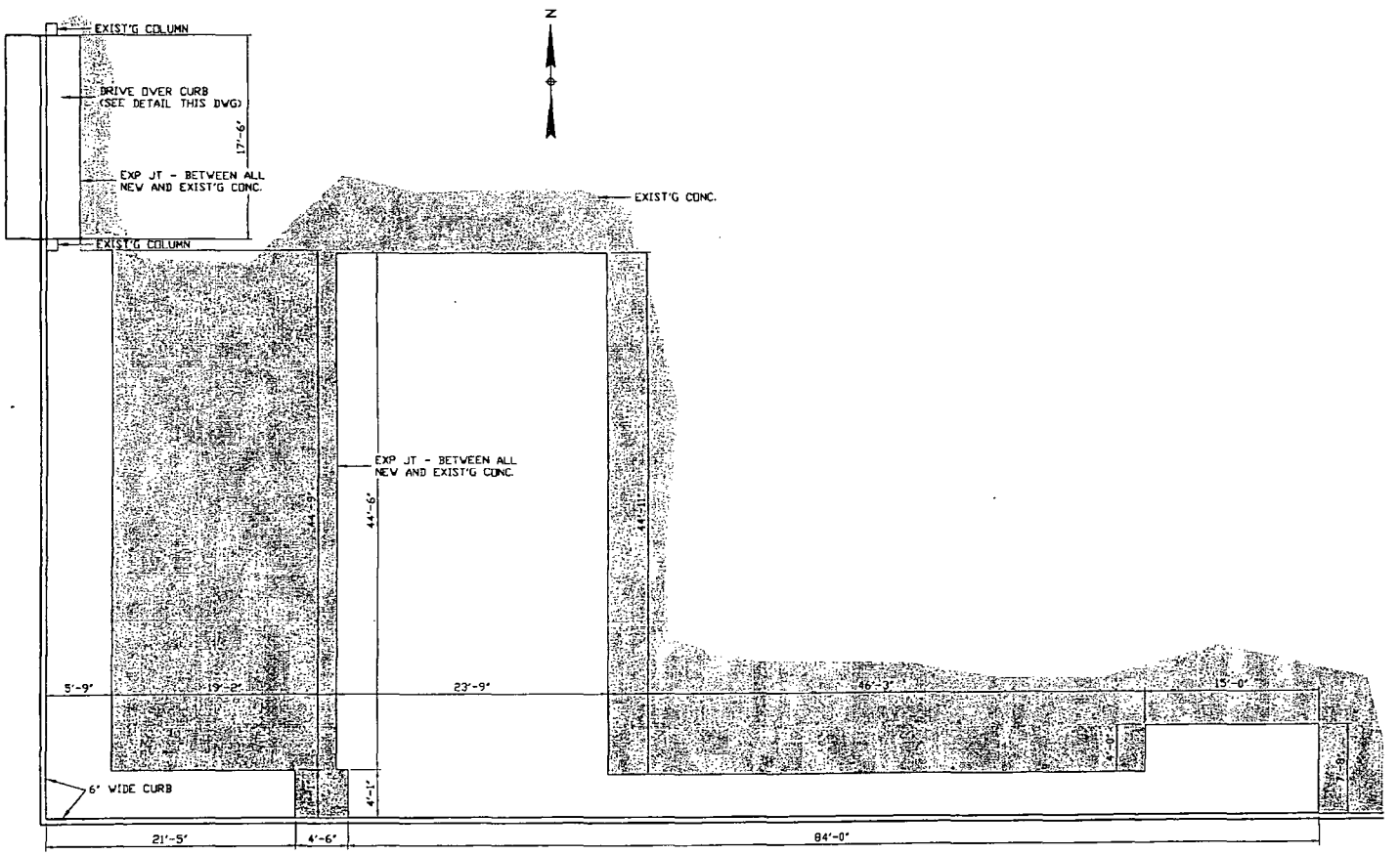


SLAB ON GRADE EXPANSION JOINT

USE BETWEEN ALL NEW AND EXIST'G CONCRETE



THICKENED EDGE SLAB



CIVIL/STRUCTURAL NOTES

A. GENERAL SITE INFORMATION

1. DESIGN CODE IBC-2003; OCCUPANCY CATEGORY III, SEISMIC USE CATEGORY II
2. SNOW LOAD 10 PSF (GROUND SNOW); I_s=1.10
3. WIND SPEED 90 MPH, EXPOSURE "C"; I_w=1.15
4. SEISMIC DESIGN PARAMETERS: S_s=0.2 F_a=1.6 S_{MS}=0.32 S_{DS}=0.21; SITE CLASS D (DEFAULT) S_1=0.05 F_v=2.4 S_{M1}=0.12 S_{D1}=0.08 } SDC=B I_e=1.25

B. CIVIL WORK AND FOUNDATION CONSTRUCTION

1. EXCAVATION AND BACKFILL:
   A. ENTIRE AREA AROUND EACH FOUNDATION MUST BE THOROUGHLY PROOFED FOR UNDERGROUND PIPE, CONDUIT, HIGH PRESSURE LINES, ETC., BEFORE ANY EXCAVATION IS BEGUN.
   B. STRUCTURAL BACKFILL SHALL CONSIST OF GRANULAR NON-EXPANSIVE SAND, GRAVEL AND SAND-GRAVEL MIXTURES, WITH PLASTICITY INDEX BELOW 12, WITH 100% LESS THAN 4" SIZE ROCKS AND MAX. 20% PASSING NO. 200 SIEVE. IT SHALL BE PLACED IN 8" MAX. LIFTS. STRUCTURAL FILL IN FOUNDATION AREAS SHOULD BE COMPACTED TO 95% OF THE ASTM D-1557 MOD.
2. SUBGRADE CONDITIONS SHOULD BE INSPECTED BY A NMC ENGINEER PRIOR TO PLACEMENT OF ANY CONCRETE. STRUCTURAL FILL SHALL BE INSPECTED AND TESTED.

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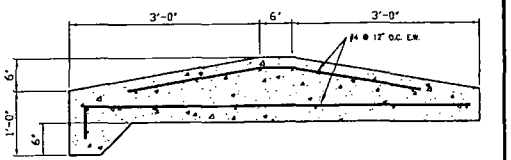


DRIVE OVER CURB DETAIL

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
A	ISSUED FOR R/C	SLW	JR	4/23/10	JR	

DRAWING TITLE

UNIT 81
CONCRETE

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	DATE BY	SCALE
SLW	JR	SCALE = NONE
DATE 4/23/10	APPR BY JR	DRAWING NUMBER 81-12-D-01 REV. A

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, April 20, 2010 7:20 AM
To: 'David Boyer'; Moore, Darrell; mleighton@lovington.org; VonGonten, Glenn, EMNRD; Lackey, Johnny; hsncpbm@leaco.net
Subject: RE: Conference Call for Lovington Well Placement Meeting 4/9/2010

Darrell, et al.:

The New Mexico Oil Conservation Division (OCD) and City of Lovington hereby approve the proposed well location changes proposed during our April 9, 2010 telephone conference call meeting. In addition, another well shall be positioned between well locations 3 and 5 on the map provided by Navajo Refining Company for the meeting.

Please contact me if you have questions. Thank you.

Please be advised that OCD approval does not relieve Navajo Refining Company of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state, or local laws and/or regulations.

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
(Pollution Prevention Guidance is under "Publications")

From: David Boyer [mailto:dgboyer@sesi-nm.com]
Sent: Friday, April 09, 2010 8:46 AM
To: Chavez, Carl J, EMNRD; Moore, Darrell; mleighton@lovington.org; VonGonten, Glenn, EMNRD; Lackey, Johnny
Subject: RE: Conference Call for Lovington Well Placement Meeting

Maps and a copy of Navajo's request are attached.

"Navajo is in possession of OCD's suggested location for the 14 new monitor wells to be installed by June 2010. Navajo is requesting that three of the wells be moved slightly to better delineate potential problem areas. I have attached a map denoting OCDs locations and the proposed new locations. The wells we propose to move are numbers 4, 5 and 8. Number 4 would be moved to put it in line between our water wells and two active injection wells. Number 5 would be moved to the north side of the South Tank Farm to give us an upgradient well in front of that tank farm to go with the downgradient wells Numbers 14 and 12. Finally, number 8 will be moved slightly south to get off of the location and downgradient of the two production wells in that area."

David G. Boyer, P.G.
Hydrogeologist
Safety and Environmental Solutions, Inc.
P.O. Box 1613
703 E. Clinton
Hobbs, NM 88241
office: 575-397-0510

fax: 575-393-4388
cell: 575-390-7067
email: dgboyer@sesi-nm.com

-----Original Message-----
From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, April 09, 2010 8:37 AM
To: Moore, Darrell; mleighton@lovington.org; David Boyer; VonGonten, Glenn, EMNRD; Lackey, Johnny
Subject: RE: Conference Call for Lovington Well Placement Meeting

Darrell:

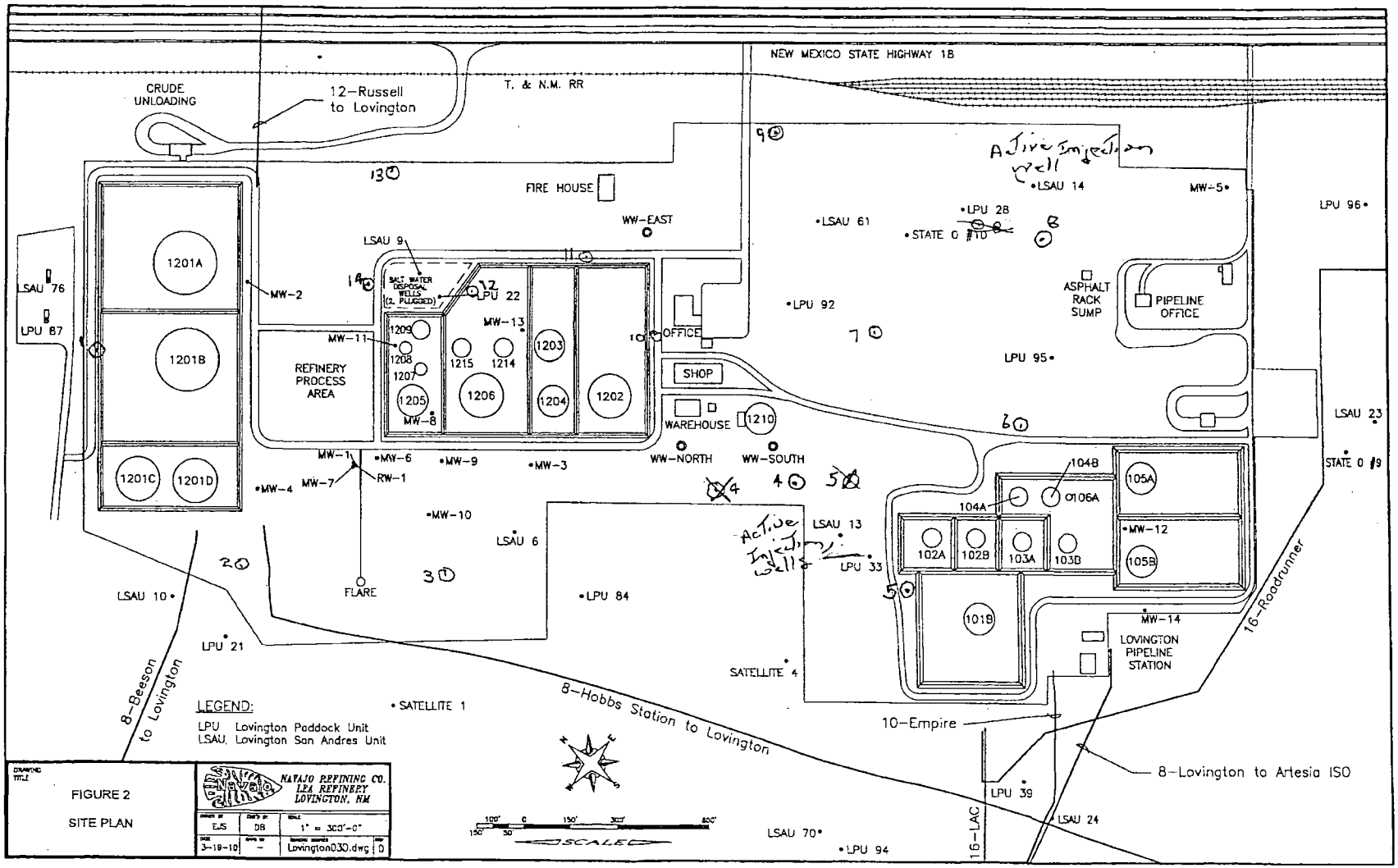
Please send us the pdf map again and some piezometric surface maps to support your changes. Thanks.

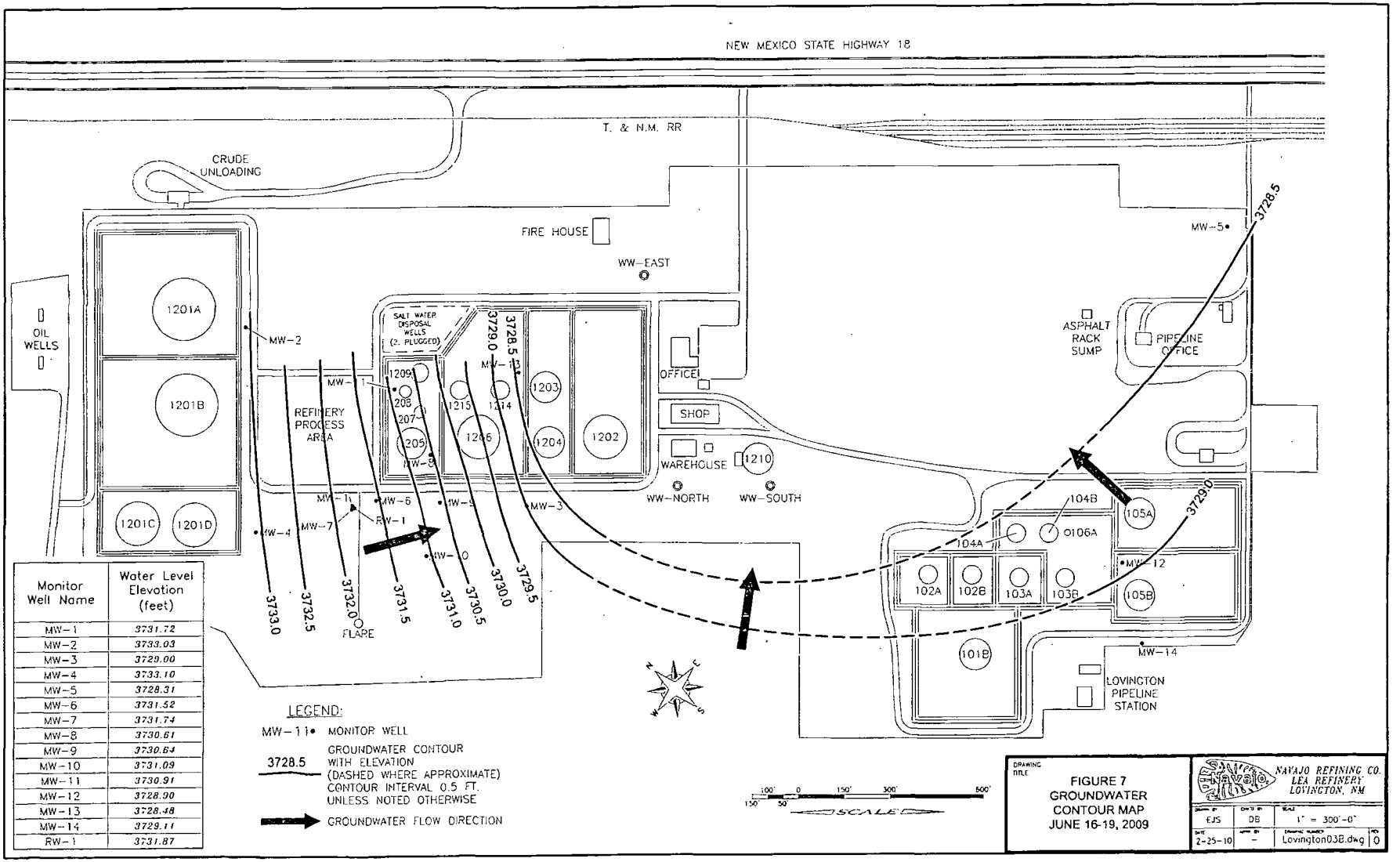
Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm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

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Friday, April 09, 2010 8:23 AM
To: Chavez, Carl J, EMNRD; mleighton@lovington.org; 'David Boyer'; VonGonten, Glenn, EMNRD; Lackey, Johnny
Subject: Conference Call for Lovington Well Placement Meeting

For the call today at 9am ...call this dial-in number 866-315-4889. Then enter code # 7480824

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451


NEW MEXICO STATE HIGHWAY 18
CRUDE UNLOADING
12–Russell to Lovington
T. & N.M. RR
FIRE HOUSE
WW–EAST
LSAU 9
SALT WATER DISPOSAL WELLS (2 PLUGGED)
LPU 22
OFFICE
SHOP
WAREHOUSE
1210
WW–NORTH
WW–SOUTH
REFINERY PROCESS AREA
1201A
1201B
1201C
1201D
LSAU 76
LPU 87
MW–2
MW–11
MW–13
MW–8
MW–1
MW–6
MW–9
MW–3
MW–4
MW–7
RW–1
MW–10
1209
1208
1207
1205
1215
1214
1203
1206
1204
1202
LSAU 6
FLARE
LPU 84
LSAU 10
LPU 21
LSAU 61
LPU 28
STATE O #10
LSAU 14
MW–5
LPU 96
LPU 92
ASPHALT RACK SUMP
PIPELINE OFFICE
LPU 95
LSAU 23
STATE O #9
104B
105A
104A
0106A
MW–12
102A
102B
103A
103B
105B
LSAU 13
LPU 33
101B
MW–14
LOVINGTON PIPELINE STATION
16–Roadrunner
SATELLITE 4
8–Hobbs Station to Lovington
10–Empire
8–Lovington to Artesia ISO
8–Beeson to Lovington
SATELLITE 1
LEGEND:
LPU Lovington Paddock Unit
LSAU Lovington San Andres Unit
LPU 39
LSAU 24
16–LAC
LSAU 70
LPU 94
SCALE
FIGURE 2
SITE PLAN
NAVAJO REFINING CO.
LEA REFINERY
LOVINGTON, NM
EJS
DB
1" = 300'-0"
3-19-10
Lovington030.dwg
0



Monitor Well Name	Water Level Elevation (feet)
MW-1	3731.72
MW-2	3733.03
MW-3	3729.00
MW-4	3733.10
MW-5	3728.31
MW-6	3731.52
MW-7	3731.74
MW-8	3730.61
MW-9	3730.64
MW-10	3731.09
MW-11	3730.91
MW-12	3728.90
MW-13	3728.48
MW-14	3729.11
RW-1	3731.87

DRAWING TITLE

FIGURE 7
GROUNDWATER CONTOUR MAP
JUNE 16-19, 2009

NAVAJO REFINING CO.
LEA REFINERY
LOVINGTON, NM

EJS	DB	1" = 300'-0"
2-25-10	–	Lovington03B.dwg | 0

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, April 08, 2010 11:00 AM
To: 'Moore, Darrell'; mleighton@lovington.org
Cc: Lackey, Johnny; Bob Allen; David Boyer; VonGonten, Glenn, EMNRD
Subject: RE: Clarrification

Darrell et al.:

Re: Navajo has some questions that need to be answered so we can move forward with delineation of Lea Refinery. The questions are as follows:

1) The permit requires that we install 15' screens in the new monitor wells. Navajo requests that this requirement be changed to 25' screens. With the installation last year of the new monitor wells and subsequent gauging, we have discovered that the aquifer is dropping about 2' a year. The added screening will add about 5 years to the life of the wells at the current rate of decline.

2) Navajo is in possession of OCD's suggested location for the 14 new monitor wells to be installed by June 2010. Navajo is requesting that three of the wells be moved slightly to better delineate potential problem areas. I have attached a map denoting OCDs locations and the proposed new locations. The wells we propose to move are numbers 4, 5 and 8. Number 4 would be moved to put it in line between our water wells and two active injection wells. Number 5 would be moved to the north side of the South Tank Farm to give us an upgradient well in front of that tank farm to go with the downgradient wells Numbers 14 and 12. Finally, number 8 will be moved slightly south to get off of the location and downgradient of the two production wells in that area.

3) Navajo wishes to verify with OCD that boreholes drilled at any new C-141 spills must go to groundwater. Drilling to groundwater (vs. determining maximum vertical depth plus 10 feet) opens a vertical pathway which, though plugged, may provide for movement of contaminants to groundwater that may not otherwise have occurred. Frankly, Navajo is perplexed how there could be any doubt that groundwater could be contaminated if the vertical depth of contamination is delineated PLUS 10 feet!

OCD responses are:

1) The 15 ft. screen allow for low-flow sampling methods and for collecting a discrete water sample from a representative zone in the ground water (GW). A larger screen means more clean water mixed with contaminants or a more diluted sample that may not be representative of the GW zone of interest would be collected. Therefore, OCD requires that MWs be installed with maximum 15 ft. screens straddling the water table.
2) We need to verbally look at the map and discuss. I'm not sure the rationale for your locations as I relied GW flow direction with a review of potential point sources at the facility for positioning the MWs. Why don't you schedule a telephone conference call with Michael Leighton (City of Lovington) and me to discuss together. The agencies need to understand your rationale and you should include some potentiometric and/or piezometric surface maps from GW monitoring w/ an explanation supporting the change.
3) This requirement was required for historical C-141 spill/release investigations, since NRC did not excavate contaminated soils after spills/releases occurred. Later, NRC proposed in a meeting that investigation of the historical C-141 release areas was more practical based on its modus operandi on spills/releases in the past. For any new spills/releases, NRC has vowed to act quickly to remove contamination after a release, which was not done in the past..... OCD would recommend that NRC core boreholes so that it can view the substrate and use best professional judgment and a field PID to identify visual staining, odors, etc. for collecting analytical samples that confirm the vertical and horizontal extent of release/spill.

Please setup a telephone conference call w/ the City and OCD and provide some water table maps that support your locations. I think Michael has the map you attached to your most recent message on this subject.

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
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Thursday, April 08, 2010 7:35 AM
To: Chavez, Carl J, EMNRD; mleighton@lovington.org
Cc: Lackey, Johnny; Bob Allen; David Boyer
Subject: RE: Clarrification

Carl

Have you got some guidance for us yet on this?

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, April 01, 2010 5:07 PM
To: Moore, Darrell; mleighton@lovington.org
Cc: Lackey, Johnny; Bob Allen; David Boyer
Subject: RE: Clarrification

Darrell:

I'm in receipt of your clarification request and will get back with you next Tuesday. 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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Thursday, April 01, 2010 2:24 PM
To: Chavez, Carl J, EMNRD; 'mleighton@lovington.org'
Cc: Lackey, Johnny; 'Bob Allen'; 'David Boyer'
Subject: Clarrification

Carl

Navajo has some questions that need to be answered so we can move forward with delineation of Lea Refinery. The questions are as follows:

4) The permit requires that we install 15' screens in the new monitor wells. Navajo requests that this requirement be changed to 25' screens. With the installation last year of the new monitor wells and subsequent gauging, we have discovered that the aquifer is dropping about 2' a year. The added screening will add about 5 years to the life of the wells at the current rate of decline.

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Thank you for your prompt attention to this matter. If there are any questions I can answer, please let me know.

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, May 21, 2010 5:03 PM
To: 'Moore, Darrell'
Subject: Lovington Refinery (GW-014) Roll Off Pad at Facility

Approved, with the condition for fluids removal from sump be in accordance with the discharge permit and OCD be notified if construction is over an old structures, tank locations, etc. that would inhibit remedial work under OCD, etc. and facility diagrams shall be updated to reflect location to scale of structure.

Please be advised that OCD approval of this plan does not relieve Navajo Refining Company of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve Navajo Refining Company of responsibility for compliance with any other federal, state, or local laws and/or regulations.

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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Tuesday, May 18, 2010 8:14 AM
To: Chavez, Carl J, EMNRD
Subject: FW:

Carl

Here are drawings of a Roll Off Pad we are going to build at Lovington on the northeast corner of the plant.

Your attention is appreciated.

From: Hernandez, Carrie
Sent: Tuesday, May 18, 2010 8:13 AM
To: Moore, Darrell
Subject:

Chavez, Carl J, EMNRD

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Sent: Tuesday, May 18, 2010 8:14 AM
To: Chavez, Carl J, EMNRD
Subject: FW:
Attachments: Lovington Roll Off Pad.pdf

Carl

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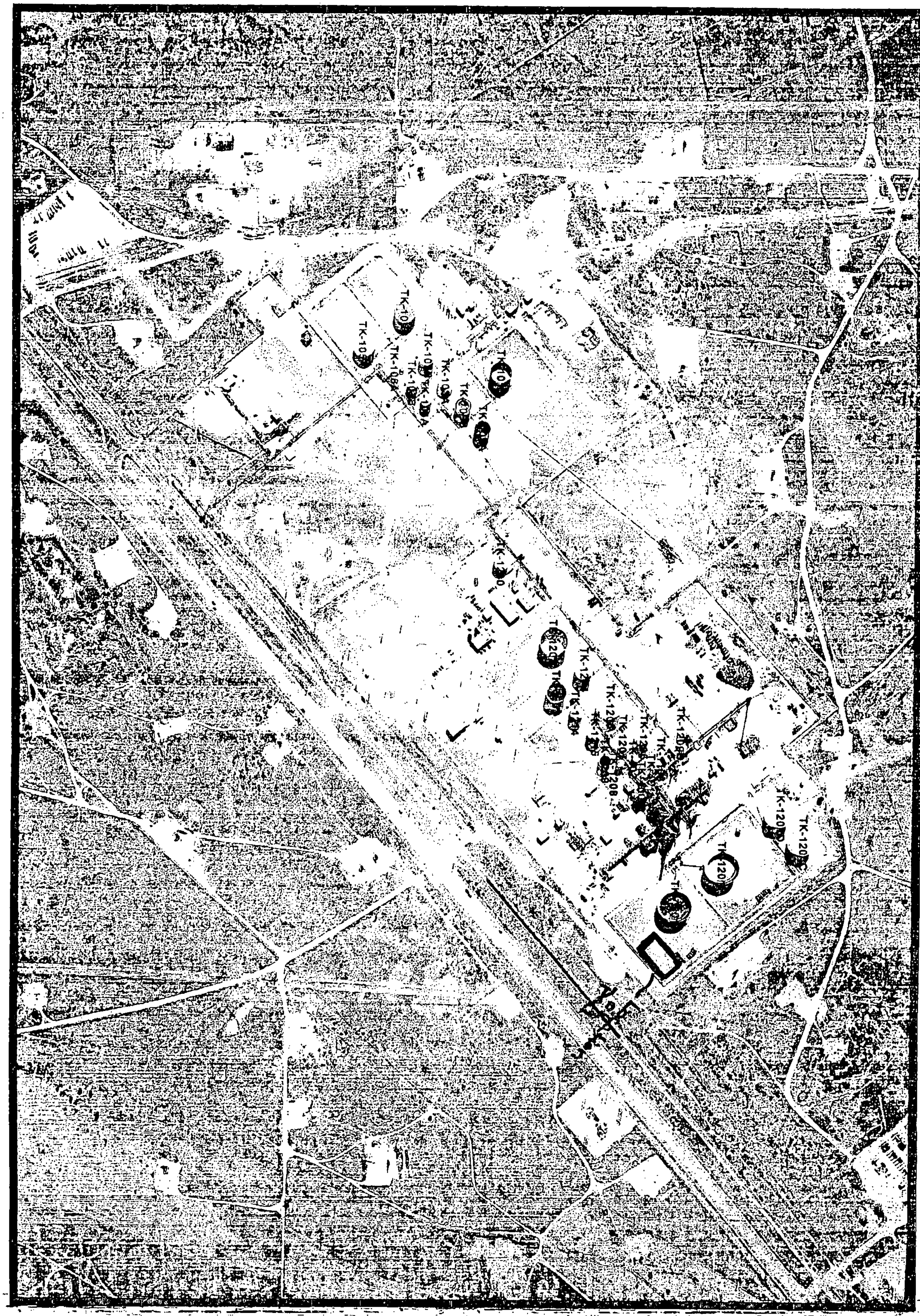
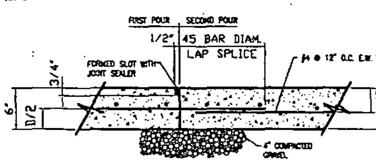
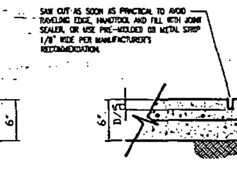
From: Hernandez, Carrie
Sent: Tuesday, May 18, 2010 8:13 AM
To: Moore, Darrell
Subject:


TK-10
TK-120



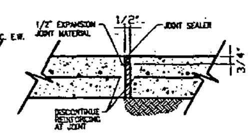
TYPICAL SLAB ON GRADE

CONSTRUCTION JOINT & CONTINUOUS REINFORCEMENT LOCATIONS



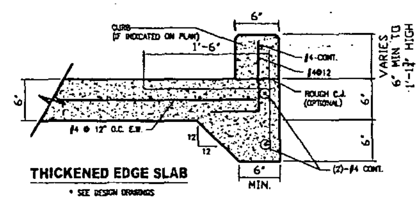
SLAB ON GRADE CONTROL JOINT

SPACE AS SHOWN ON DESIGN DRAWINGS



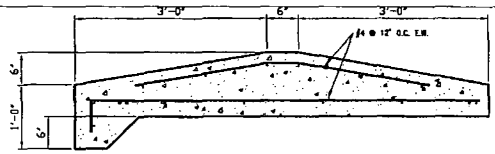
SLAB ON GRADE EXPANSION JOINT

USE ONLY WHERE SHOWN ON DESIGN DRAWINGS

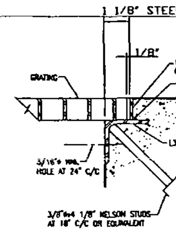


THICKENED EDGE SLAB

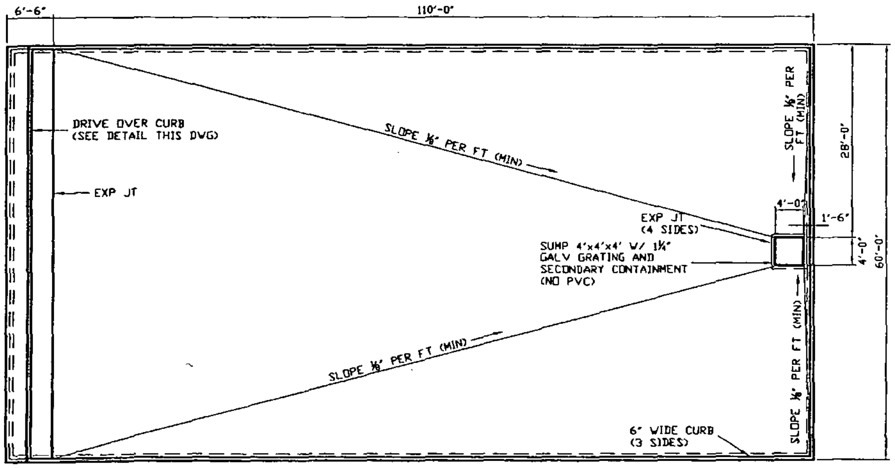
* SEE DESIGN DRAWINGS

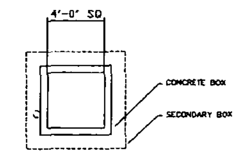


DRIVE OVER CURB DETAIL

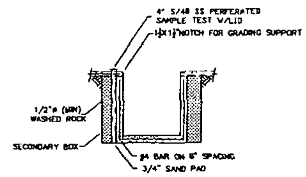


SUMP ANGLE DETAIL





PLAN OF SUMP BOX



ELEV SUMP BOX

CIVIL/STRUCTURAL NOTES

A. GENERAL SITE INFORMATION

1. DESIGN CODE IBC-2003; OCCUPANCY CATEGORY III, SEISMIC USE CATEGORY II
2. SNOW LOAD 10 PSF (GROUND SNOW); I=1.10
3. WIND SPEED 90 MPH, EXPOSURE "C"; I=1.15
4. SEISMIC DESIGN PARAMETERS: Ss=0.2; Fa=1.6; Sms=0.32; Sds=0.21 } SDC=B; I=1.25
   SITE CLASS D (USED): S1=0.05; Fv=2.4; Sm1=0.12; Sd1=0.08

B. CIVIL WORK AND FOUNDATION CONSTRUCTION

1. EXCAVATION AND BACKFILL:
   A. ENTIRE AREA AROUND EACH FOUNDATION MUST BE THOROUGHLY PROBED FOR UNDERGROUND PIPE, CONDUIT, HIGH PRESSURE LINES, ETC., BEFORE ANY EXCAVATION IS BEGUN.
   B. STRUCTURAL BACKFILL SHALL CONSIST OF GRANULAR NON-EXPANSIVE SAND, GRAVEL AND SAND-GRAVEL MIXTURES, WITH PLASTICITY INDEX BELOW 12, WITH 100% LESS THAN 6" SIZE ROCKS AND MAX. 20% PASSING NO. 200 SIEVE. IT SHALL BE PLACED IN 8" MAX. LIFTS. STRUCTURAL FILL IN FOUNDATION AREAS SHOULD BE COMPACTED TO 95% OF THE ASTM D-1557 MDD.
2. SUBGRADE CONDITIONS SHOULD BE INSPECTED BY A NRC ENGINEER PRIOR TO PLACEMENT OF ANY CONCRETE. STRUCTURAL FILL SHALL BE INSPECTED AND TESTED.

C. CONCRETE

1. CONCRETE STRENGTH TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI-318, CHAPTER 5.
2. CONCRETE COMPRESSIVE STRENGTH (f'c) @ 28 DAYS: 3000 PSI FOR ALL CONCRETE. CONCRETE MIX SHALL HAVE 0.45 MAX. WATER/CEMENT RATIO FOR THE CONCRETE REQ'D TO BE WATER-TIGHT AND 0.50 MAX FOR ALL OTHER CONCRETE. MAXIMUM CONCRETE MIX SLUMP SHALL NOT EXCEED 5".
3. USE TYPE II CEMENT FOR ALL CONCRETE UNLESS NOTED OTHERWISE ON DRAWINGS.
4. AGGREGATES SHALL BE CRUSHED STONE CONFORMING TO "SPECIFICATION FOR CONCRETE AGGREGATES" ASTM C33.
5. REINFORCING BARS SHALL BE DEFORMED, INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A615 INCLUDING SUPPLEMENTARY REQUIREMENTS S1, GRADE 60. FIELD SPLICES & DEVELOPMENT LENGTH SHALL COMPLY WITH THE FOLLOWING SCHEDULE, U.O.N.

REBAR SIZE	HDL	TEL TOP	TEL OTHER	TLS TOP	TLS OTHER
#4	7	25	19	32	25
#5	8	31	24	40	31
#6	10	37	28	48	37
#7	12	54	42	70	54
#8	13	62	47	80	62
#9	15	70	54	91	70
#10	17	78	60	102	78
#11	19	87	67	113	87

WHERE:
A. TEL = TENSION EMBEDMENT LENGTH
   TLS = TENSION LAP SPLICE LENGTH
   HDL = HOOK DEVELOPMENT LENGTH
B. "TOP" BARS ARE ALL HORIZONTAL BARS SO PLACED THAT MORE THAN 12 IN. OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
C. ALL BARS THAT ARE NOT "TOP" BARS ARE "OTHER" BARS.

REINFORCEMENT SHALL BE INSPECTED BEFORE CONCRETE IS PLACED.

6. CONCRETE PROTECTION FOR REINFORCEMENT - CLEAR DISTANCE FROM FACE OF CONCRETE TO BAR SHALL BE AS FOLLOWS UNLESS NOTED.
   A. CONCRETE DEPOSITED AGAINST GROUND OR VOID FORM: 3".
   B. CONCRETE SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH GROUND AFTER REMOVAL OF FORMS: 1 1/2" FOR #5 BARS AND SMALLER, 2" FOR #6 THROUGH #18.
   C. SURFACES NOT EXPOSED TO GROUND OR WEATHER: 3/4" FOR SLABS AND WALLS WITH #11 AND SMALLER BARS, 1 1/2" FOR BEAMS AND COLUMNS.
7. EXPANSION JOINT MATERIAL FOR EXPANSION OR ISOLATION JOINTS SHALL BE PREMOLDED, BITUMINOUS IMPREGNATED FIBERBOARD CONFORMING TO ASTM D994.
8. JOINT SEALANT FOR ALL CONCRETE CONTROL, CONSTRUCTION AND ISOLATION JOINTS SHALL BE SIKAFLEX-1A BY SIKA CORP., OR APPROVED EQUAL.
9. VOID FORM MATERIAL SHALL BE BY "SURE VOID" OR APPROVED EQUAL. KEEP VOID FORM MATERIAL DRY DURING PLACEMENT & INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. VOID FORM SHALL BE BIODEGRADABLE AND CAPABLE OF SUPPORTING THE FLUID WEIGHT OF THE CONCRETE.
10. ALL WELDING PROCEDURES, INCLUDING STUD WELDING, AND QUALIFICATIONS SHALL BE IN ACCORDANCE WITH AWS D1.1.
11. ALL SLABS SHALL BE GIVEN A FLOAT FINISH AS DESCRIBED IN ACI 301. ALL WALKS AND EXTERIOR SLABS SHALL BE BROOM FINISHED AFTER CONCRETE HAS RECEIVED A FLOAT FINISH.
12. EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS NOTED.
13. CHECK ALL ELECTRICAL, MECHANICAL AND PIPING DRAWINGS FOR EMBEDDED ITEMS (PIPE, CONDUIT, ETC.) AND BLOCKOUTS BEFORE PLACING CONCRETE.

ISSUED FOR

MAR 19 2010

REVIEW & COMMENTS

NOTES	REFERENCE DRAWINGS	NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
		A	ISSUED FOR R/C	SLW	JR	3/17/10	JR	

DRAWING TITLE: UNIT 81 LEA ROLL OFF BINS CONCRETE

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE	
SLW	JR	SCALE = NONE	
DATE	APPR. BY	DRAWING NUMBER	REV.
3/17/10	JR	81-11-D-01	A

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, May 13, 2010 6:34 AM
To: 'Moore, Darrell'
Cc: Lackey, Johnny; Michael Leighton; VonGonten, Glenn, EMNRD
Subject: RE: Call on Monitor Wells at Lovington

Darrell:

I think you are drilling with air methods (see below) which is an incorrect drilling method unless you are able to find a method that allows coring to achieve the requirements of the OCD and City of Lovington. I think you need to drill with a hollow stem auger system so you can advance and collect core samples before you drill down and disturb the hydrogeology. Please find descriptions of air drilling methods and OCD specified clearly that coring was required with samples collected and analyzed based on evaluation of cores in the field. We do not want disturbance near or at the water table as we are attempting to investigate and characterize environmental contamination at the facility.

Please read the drill methods below to find the correct application for the Lovington Refinery.

Please complete the project as specified. To do otherwise will result in an incomplete investigation. Thank you.

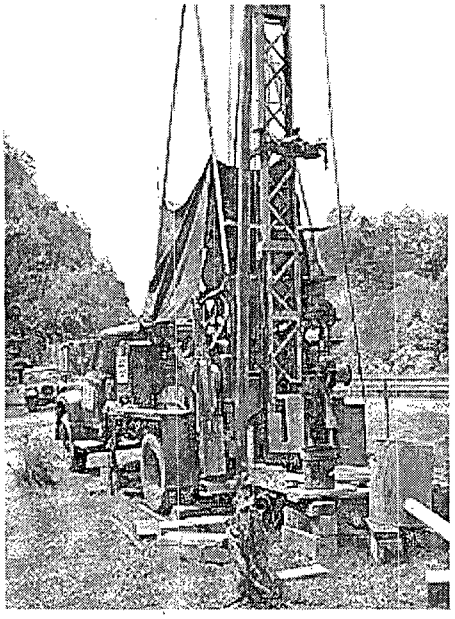
Drill types

There are a variety of drill mechanisms which can be used to sink a borehole into the ground. Each has its advantages and disadvantages, in terms of the depth to which it can drill, the type of sample returned, the costs involved and penetration rates achieved. There are two basic types of drills: drills which produce rock chips, and drills which produce core samples.

[edit] Auger drilling

Auger drilling is done with a helical screw which is driven into the ground with rotation; the earth is lifted up the borehole by the blade of the screw. Hollow stem Auger drilling is used for environmental drilling, geotechnical drilling, soil engineering and geochemistry reconnaissance work in exploration for mineral deposits. Solid flight augers/bucket augers are used in construction drilling. In some cases, mine shafts are dug with auger drills. Small augers can be mounted on the back of a utility truck, with large augers used for sinking piles for bridge foundations.

Auger drilling is restricted to generally soft unconsolidated material or weak weathered rock. It is cheap and fast.



Cable tool water well drilling rig in Kimball, West Virginia. These slow rigs have mostly been replaced by rotary drilling rigs in the U.S.

[edit] Percussion rotary air blast drilling (RAB)

RAB drilling is used most frequently in the mineral exploration industry. (This tool is also known as a Down-The-Hole Drill.) The drill uses a pneumatic reciprocating piston-driven 'hammer' to energetically drive a heavy drill bit into the rock. The drill bit is hollow, solid steel and has ~20 mm thick tungsten rods protruding from the steel matrix as 'buttons'. The tungsten buttons are the cutting face of the bit.

The cuttings are blown up the outside of the rods and collected at surface. Air or a combination of air and foam lift the cuttings.

RAB drilling is used primarily for mineral exploration, water bore drilling and blast-hole drilling in mines, as well as for other applications such as engineering, etc. RAB produces lower quality samples because the cuttings are blown up the outside of the rods and can be contaminated from contact with other rocks. RAB drilling at extreme depth, if it encounters water, may rapidly clog the outside of the hole with debris, precluding removal of drill cuttings from the hole.

This can be counteracted, however, with the use of 'stabilisers' also known as 'reamers', which are large cylindrical pieces of steel attached to the drill string, and made to perfectly fit the size of the hole being drilled. These have sets of rollers on the side, usually with tungsten buttons, that constantly break down cuttings being pushed upwards.

The use of high-powered air compressors, which push 900-1150cfm of air at 300-350psi down the hole also ensures drilling of a deeper hole up to ~1250m due to higher air pressure which pushes all rock cuttings and any water to the surface. This, of course, is all dependent on the density and weight of the rock being drilled, and on how worn the drill bit is.

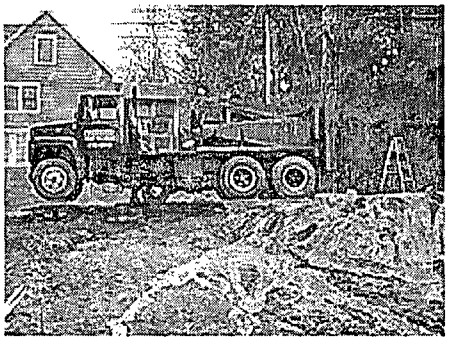
[edit] Air core drilling

Air core drilling and related methods use hardened steel or tungsten blades to bore a hole into unconsolidated ground. The drill bit has three blades arranged around the bit head, which cut the unconsolidated ground. The

rods are hollow and contain an inner tube which sits inside the hollow outer rod barrel. The drill cuttings are removed by injection of compressed air into the hole via the annular area between the innertube and the drill rod. The cuttings are then blown back to surface up the inner tube where they pass through the sample separating system and are collected if needed. Drilling continues with the addition of rods to the top of the drill string. Air core drilling can occasionally produce small chunks of cored rock.

This method of drilling is used to drill the weathered regolith, as the drill rig and steel or tungsten blades cannot penetrate fresh rock. Where possible, air core drilling is preferred over RAB drilling as it provides a more representative sample. Air core drilling can achieve depths approaching 300 meters in good conditions. As the cuttings are removed inside the rods and are less prone to contamination compared to conventional drilling where the cuttings pass to the surface via outside return between the outside of the drill rob and the walls of the hole. This method is more costly and slower than RAB.

[edit] Cable tool drilling



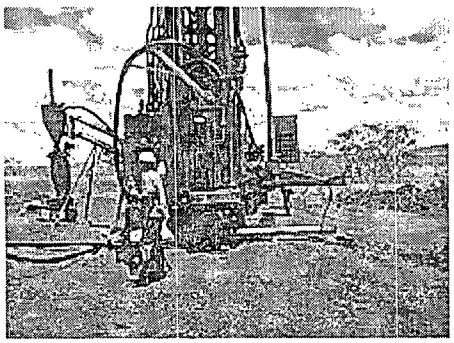
SpeedStar Cable Tool Drilling Rig, Ballston Spa, NY

Cable tool rigs are a traditional way of drilling water wells. The majority of large diameter water supply wells, especially deep wells completed in bedrock aquifers, were completed using this drilling method. Although this drilling method has largely been supplanted in recent years by other, faster drilling techniques, it is still the most practicable drilling method for large diameter, deep bedrock wells, and in widespread use for small rural water supply wells. The impact of the drill bit fractures the rock and in many shale rock situations increases the water flow into a well over rotary.

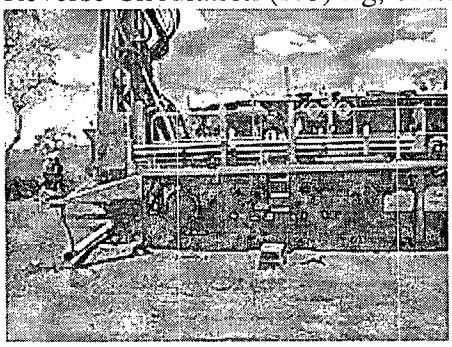
Also known as ballistic well drilling and sometimes called "spudders", these rigs raise and drop a drill string with a heavy carbide tipped drilling bit that chisels through the rock by finely pulverizing the subsurface materials. The drill string is composed of the upper drill rods, a set of "jars" (inter-locking "sliders" that help transmit additional energy to the drill bit and assist in removing the bit if it is stuck) and the drill bit. During the drilling process, the drill string is periodically removed from the borehole and a bailer is lowered to collect the drill cuttings (rock fragments, soil, etc.). The bailer is a bucket-like tool with a trapdoor in the base. If the borehole is dry, water is added so that the drill cuttings will flow into the bailer. When lifted, the bailer closes and the cuttings are then raised and removed. Since the drill string must be raised and lowered to advance the boring, casing (larger diameter outer piping) is typically used to hold back upper soil materials and stabilize the borehole.

Cable tool rigs are simpler and cheaper than similarly sized rotary rigs, although loud and very slow to operate. The world record cable tool well was drilled in New York to a depth of almost 12,000 feet. The common Bucyrus Erie 22 can drill down to about 1,100 feet. Since cable tool drilling does not use air to eject the drilling chips like a rotary, instead using a cable strung bailer, technically there is no limitation on depth.

[edit] Reverse circulation (RC) drilling



Reverse Circulation (RC) rig, outside Newman, Western Australia



Track mounted Reverse Circulation rig (side view).

RC drilling is similar to air core drilling, in that the drill cuttings are returned to surface inside the rods. The drilling mechanism is a pneumatic reciprocating piston known as a *hammer* driving a tungsten-steel drill bit. RC drilling utilises much larger rigs and machinery and depths of up to 500 metres are routinely achieved. RC drilling ideally produces dry rock chips, as large air compressors dry the rock out ahead of the advancing drill bit. RC drilling is slower and costlier but achieves better penetration than RAB or air core drilling; it is cheaper than diamond coring and is thus preferred for most mineral exploration work.

Reverse circulation is achieved by blowing air down the rods, the differential pressure creating air lift of the water and cuttings up the *inner tube* which is inside each rod. It reaches the *bell* at the top of the hole, then moves through a sample hose which is attached to the top of the *cyclone*. The drill cuttings travel around the inside of the cyclone until they fall through an opening at the bottom and are collected in a sample bag.

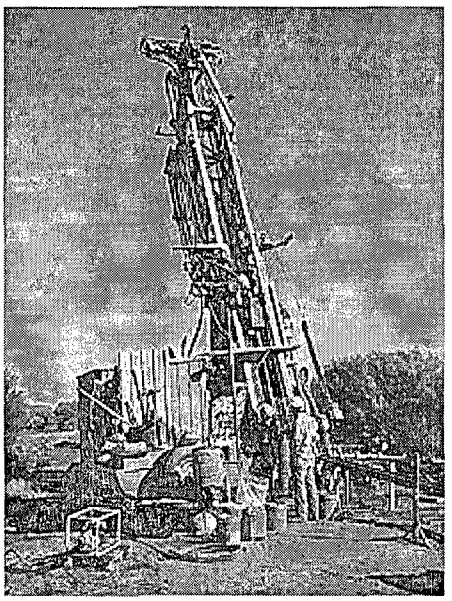
The most commonly used RC drill bits are 5-8 inches (12.7–20.32 cm) in diameter and have round metal 'buttons' that protrude from the bit, which are required to drill through shale and abrasive rock. As the buttons wear down, drilling becomes slower and the rod string can potentially become bogged in the hole. This is a problem as trying to recover the rods may take hours and in some cases weeks. The rods and drill bits themselves are very expensive, often resulting in great cost to drilling companies when equipment is lost down the bore hole. Most companies will regularly re-grind the buttons on their drill bits in order to prevent this, and to speed up progress. Usually, when something is lost (breaks off) in the hole, it is not the drill string, but rather from the bit, hammer, or stabiliser to the bottom of the drill string (bit). This is usually caused by a blunt bit getting stuck in fresh rock, over-stressed metal, or a fresh drill bit getting stuck in a part of the hole that is too small, owing to having used a bit that has worn to smaller than the desired hole diameter.

Although RC drilling is air-powered, water is also used, to reduce dust, keep the drill bit cool, and assist in pushing cutting back upwards, but also when *collaring* a new hole. A mud called *liqui-pol* is mixed with water and pumped into the rod string, down the hole. This helps to bring up the sample to the surface by making the sand stick together. Occasionally, 'super-foam' (AKA 'quik-foam') is also used, to bring all the very fine cuttings to the surface, and to clean the hole. When the drill reaches hard rock, a *collar* is put down the hole around the

rods which is normally PVC piping. Occasionally the collar may be made from metal casing. Collaring a hole is needed to stop the walls from caving in and bogging the rod string at the top of the hole. Collars may be up to 60 metres deep, depending on the ground, although if drilling through hard rock a collar may not be necessary.

Reverse circulation rig setups usually consist of a support vehicle, an auxiliary vehicle, as well as the rig itself. The support vehicle, normally a truck, holds diesel and water tanks for resupplying the rig. It also holds other supplies needed for maintenance on the rig. The auxiliary is a vehicle, carrying an auxiliary engine and a booster engine. These engines are connected to the rig by high pressure air hoses. Although RC rigs have their own booster and compressor to generate air pressure, extra power is needed which usually isn't supplied by the rig due to lack of space for these large engines. Instead, the engines are mounted on the auxiliary vehicle. Compressors on an RC rig have an output of around 1000 cfm at 500 psi (500 $L \cdot s^{-1}$ at 3.4 MPa). Alternatively, stand-alone air compressors which have an output of 900-1150cfm at 300-350 psi each are used in sets of 2, 3, or 4, which are all routed to the rig through a multi-valve manifold.

[edit] Diamond core drilling



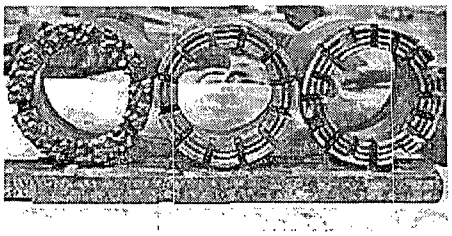
Multi-combination drilling rig (capable of both diamond and reverse circulation drilling). Rig is currently set up for diamond drilling.

Diamond core drilling (exploration diamond drilling) utilises an annular diamond-impregnated drill bit attached to the end of hollow drill rods to cut a cylindrical core of solid rock. The diamonds used are fine to microfine industrial grade diamonds. They are set within a matrix of varying hardness, from brass to high-grade steel. Matrix hardness, diamond size and dosing can be varied according to the rock which must be cut. Holes within the bit allow water to be delivered to the cutting face. This provides three essential functions; lubrication, cooling, and removal of drill cuttings from the hole.

Diamond drilling is much slower than reverse circulation (RC) drilling due to the hardness of the ground being drilled. Drilling of 1200 to 1800 metres is common and at these depths, ground is mainly hard rock. Diamond rigs need to drill slowly to lengthen the life of drill bits and rods, which are very expensive.

Core samples are retrieved via the use of a *lifter tube*, a hollow tube lowered inside the rod string by a winch cable until it stops inside the core barrel. As the core is drilled, the core lifter slides over the core as it is cut. An *overshot* attached to the end of the winch cable is lowered inside the rod string and locks on to the *backend*, located on the top end of the lifter tube. The winch is retracted, pulling the lifter tube to the surface. The core

does not drop out the inside of the lifter tube when lifted because a "core lifter spring," located at the bottom of the tube allows the core to move inside the tube but not fall out.



Diamond core drill bits

Once a rod is removed from the hole, the core sample is then removed from the rod and catalogued. The Driller's offsider screws the rod apart using tube clamps, then each part of the rod is taken and the core is shaken out into core trays. The core is washed, measured and broken into smaller pieces using a hammer or sawn through to make it fit into the sample trays. Once catalogued, the core trays are retrieved by geologists who then analyse the core and determine if the drill site is a good location to expand future mining operations.

Diamond rigs can also be part of a multi-combination rig. Multi-combination rigs are a dual setup rig capable of operating in either a reverse circulation (RC) and diamond drilling role (though not at the same time). This is a common scenario where exploration drilling is being performed in a very isolated location. The rig is first set up to drill as an RC rig and once the desired metres are drilled, the rig is set up for diamond drilling. This way the deeper metres of the hole can be drilled without moving the rig and waiting for a diamond rig to set up on the pad.

[edit] Direct push rigs

Direct push technology includes several types of drilling rigs and drilling equipment which advances a drill string by pushing or hammering without rotating the drill string. While this does not meet the proper definition of drilling, it does achieve the same result - a borehole. Direct push rigs include both cone penetration testing (CPT) rigs and direct push sampling rigs such as a PowerProbe or Geoprobe. Direct push rigs typically are limited to drilling in unconsolidated soil materials and very soft rock.

CPT rigs advance specialized testing equipment (such as electronic cones), and soil samplers using large hydraulic rams. Most CPT rigs are heavily ballasted (20 metric tons is typical) as a counter force against the pushing force of the hydraulic rams which are often rated up to 20kn. Alternatively, small, light CPT rigs and offshore CPT rigs will use anchors such as screwed-in ground anchors to create the reactive force. In ideal conditions, CPT rigs can achieve production rates of up to 250–300 meters per day.

Direct push drilling rigs use hydraulic cylinders and a hydraulic hammer in advancing a hollow core sampler to gather soil and groundwater samples. The speed and depth of penetration is largely dependent on the soil type, the size of the sampler, and the weight and power the rig. Direct push techniques are generally limited to shallow soil sample recovery in unconsolidated soil materials. The advantage of direct push technology is that in the right soil type it can produce a large number of high quality samples quickly and cheaply, generally from 50 to 75 meters per day. Rather than hammering, direct push can also be combined with sonic (vibratory) methods to increase drill efficiency.

[edit] Hydraulic rotary drilling

Oil well drilling utilises tri-cone roller, carbide embedded, fixed-cutter diamond, or diamond-impregnated drill bits to wear away at the cutting face. This is preferred because there is no need to return intact samples to surface for assay as the objective is to reach a formation containing oil or natural gas. Sizable machinery is used, enabling depths of several kilometres to be penetrated. Rotating hollow drill pipes carry down bentonite and barite infused drilling muds to lubricate, cool, and clean the drilling bit, control downhole pressures, stabilize the wall of the borehole and remove drill cuttings. The mud travels back to the surface around the outside of the drill pipe, called the annulus. Examining rock chips extracted from the mud is known as mud logging. Another form of well logging is electronic and is frequently employed to evaluate the existence of possible oil and gas deposits in the borehole. This can take place while the well is being drilled, using Measurement While Drilling tools, or after drilling, by lowering measurement tools into the newly-drilled hole.

The rotary system of drilling was in general use in Texas in the early 1900s. It is a modification of one invented by Fauvelle in 1845, and used in the early years of the oil industry in some of the oil-producing countries in Europe. Originally pressurized water was used instead of mud, and was almost useless in hard rock before the diamond cutting bit.[1]. The main breakthrough for rotary drilling came in 1901, when Anthony Francis Lucas combined the use of a steam-driven rig and of mud instead of water in the Spindletop discovery well.[2]

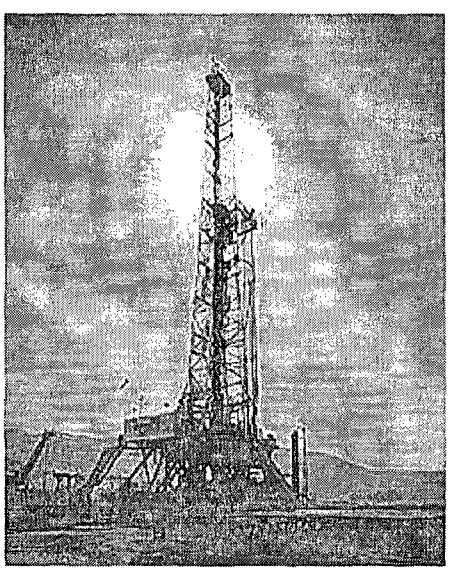
The drilling and production of oil and gas can pose a safety risk and a hazard to the environment from the ignition of the entrained gas causing dangerous fires and also from the risk of oil leakage polluting water, land and groundwater. For these reasons, redundant safety systems and highly trained personnel are required by law in all countries with significant production.

[edit] Sonic (vibratory) drilling

A sonic drill head works by sending high frequency resonant vibrations down the drill string to the drill bit, while the operator controls these frequencies to suit the specific conditions of the soil/rock geology. Vibrations may also be generated within the drill head. The frequency is generally between 50 and 120 hertz (cycles per second) and can be varied by the operator.

Resonance magnifies the amplitude of the drill bit, which fluidizes the soil particles at the bit face, allowing for fast and easy penetration through most geological formations. An internal spring system isolates these vibrational forces from the rest of the drill rig.

[edit] Limits of the technology




An oil rig

Drill technology has advanced steadily since the 19th century. However, there are several basic limiting factors which will determine the depth to which a bore hole can be sunk.

All holes must maintain *outer diameter*; the diameter of the hole must remain wider than the diameter of the rods or the rods cannot turn in the hole and progress cannot continue. Friction caused by the drilling operation will tend to reduce the outside diameter of the drill bit. This applies to all drilling methods, except that in diamond core drilling the use of thinner rods and casing may permit the hole to continue. Casing is simply a hollow sheath which protects the hole against collapse during drilling, and is made of metal or PVC. Often diamond holes will start off at a large diameter and when outside diameter is lost, thinner rods put down inside casing to continue, until finally the hole becomes too narrow. Alternatively, the hole can be reamed; this is the usual practice in oil well drilling where the hole size is maintained down to the next casing point.

For percussion techniques, the main limitation is air pressure. Air must be delivered to the piston at sufficient pressure to activate the reciprocating action, and in turn drive the head into the rock with sufficient strength to fracture and pulverise it. With depth, volume is added to the in-rod string, requiring larger compressors to achieve operational pressures. Secondly, groundwater is ubiquitous, and increases in pressure with depth in the ground. The air inside the rod string must be pressurised enough to overcome this water pressure at the bit face. Then, the air must be able to carry the rock fragments to surface. This is why depths in excess of 500 m for reverse circulation drilling are rarely achieved, because the cost is prohibitive and approaches the threshold at which diamond core drilling is more economic.

Diamond drilling can routinely achieve depths in excess of 1200 m. In cases where money is no issue, extreme depths have been achieved because there is no requirement to overcome water pressure. However, circulation must be maintained to return the drill cuttings to surface, and more importantly to maintain cooling and lubrication of the cutting surface.

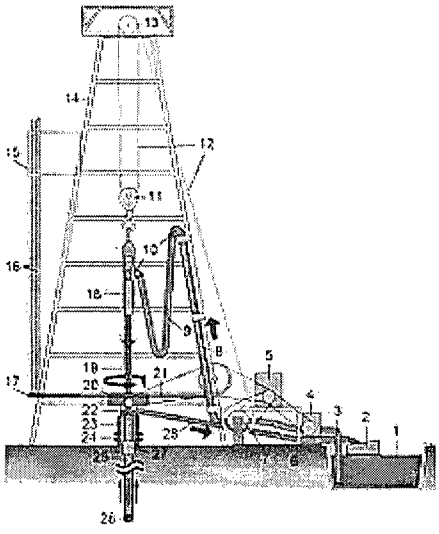
Without sufficient lubrication and cooling, the matrix of the drill bit will soften. While diamond is the hardest substance known, at 10 on the Mohs hardness scale, it must remain firmly in the matrix to achieve cutting. Weight on bit, the force exerted on the cutting face of the bit by the drill rods in the hole above the bit, must also be monitored.

A unique drilling operation in deep ocean water was named Project Mohole.

[edit] Causes of deviation

Most drill holes deviate from the vertical. This is because of the torque of the turning bit working against the cutting face, because of the flexibility of the steel rods and especially the screw joints, because of reaction to foliation and structure within the rock, and because of refraction as the bit moves into different rock layers of varying resistance. Additionally, inclined holes will tend to deviate upwards because the drill rods will lie against the bottom of the bore, causing the drill bit to be slightly inclined from true. It is because of deviation that drill holes must be surveyed if deviation will impact on the usefulness of the information returned. Sometimes the surface location can be offset laterally to take advantage of the expected deviation tendency, so the bottom of the hole will end up near the desired location. Oil well drilling commonly uses a process of controlled deviation called directional drilling (e.g., when several wells are drilled from one surface location).

[edit] Rig equipment



Simple diagram of a drilling rig and its basic operation

typically includes at least some of the following items: See Drilling rig (petroleum) for a more detailed description.

- Blowout preventers: (BOPs)

The equipment associated with a rig is to some extent dependent on the type of rig but (#23 & #24) are devices installed at the wellhead to prevent fluids and gases from unintentionally escaping from the borehole. #23 is the annular (often referred to as the *Hydril*, which is one manufacturer) and #24 is the pipe rams and blind rams.

- Centrifuge: an industrial version of the device that separates fine silt and sand from the drilling fluid.
- Solids control: solids control equipments for preparing drilling mud for the drilling rig.
- Chain tongs: wrench with a section of chain, that wraps around whatever is being tightened or loosened. Similar to a pipe wrench.
- Degasser: a device that separates air and/or gas from the drilling fluid.
- Desander / desilter: contains a set of hydrocyclones that separate sand and silt from the drilling fluid.
- Drawworks: (#7) is the mechanical section that contains the spool, whose main function is to reel in/out the drill line to raise/lower the traveling block (#11).
- Drill bit: (#26) device attached to the end of the drill string that breaks apart the rock being drilled. It contains jets through which the drilling fluid exits.
- Drill pipe: (#16) joints of hollow tubing used to connect the surface equipment to the bottom hole assembly (BHA) and acts as a conduit for the drilling fluid. In the diagram, these are *stands* of drill pipe which are 2 or 3 joints of drill pipe connected together and *stood* in the derrick vertically, usually to save time while Tripping pipe.
- Elevators: a hinged device that is used to latch to the drill pipe or casing to facilitate the lowering or lifting (of pipe or casing) into or out of the borehole.
- Mud motor: a hydraulically powered device positioned just above the drill bit used to spin the bit independently from the rest of the drill string.
- Mud pump: (#4) reciprocal type of pump used to circulate drilling fluid through the system.
- Mud tanks: (#1) often called mud pits, provides a reserve store of drilling fluid until it is required down the wellbore.
- Rotary table: (#20) rotates the drill string along with the attached tools and bit.
- Shale shaker: (#2) separates drill cuttings from the drilling fluid before it is pumped back down the borehole.

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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Wednesday, May 12, 2010 2:10 PM
To: Chavez, Carl J, EMNRD
Cc: Lackey, Johnny; Michael Leighton
Subject: RE: Call on Monitor Wells at Lovington

Carl

As we discussed on the phone, we are having some problems drilling the monitor wells at Lovington. We can get down to about 80 feet using an air rig with no problems. After that depth, the sand begins to flow in on top of the drilling apparatus and we are getting stuck. We don't feel using augers will alleviate this problem and would probably exasperate it. What we would like to do is drill to about 80 feet +/- catching samples every 10 feet. Then mud up and drill the rest of the way. We would be able to get lithology of the last 40 +/- feet thru mud analysis and then we would, of course, sample the water table.

As we discussed, we would like OCD's approval of this procedure for the monitor wells at Lovington. Your attention is greatly appreciated.

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, May 12, 2010 1:36 PM
To: Moore, Darrell
Subject: RE: Call on Monitor Wells at Lovington

Yes, please call.

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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Wednesday, May 12, 2010 12:52 PM
To: Chavez, Carl J, EMNRD
Subject: Call on Monitor Wells at Lovington

Carl

Would you be available at 1:30 today for a conference call on some problems we are having drilling the monitor wells at Lovington? We need some guidance from OCD.

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, April 08, 2010 11:00 AM
To: 'Moore, Darrell'; mleighton@lovington.org
Cc: Lackey, Johnny; Bob Allen; David Boyer; VonGonten, Glenn, EMNRD
Subject: RE: Clarrification

Darrell et al.:

Re: Navajo has some questions that need to be answered so we can move forward with delineation of Lea Refinery. The questions are as follows:

1) The permit requires that we install 15' screens in the new monitor wells. Navajo requests that this requirement be changed to 25' screens. With the installation last year of the new monitor wells and subsequent gauging, we have discovered that the aquifer is dropping about 2' a year. The added screening will add about 5 years to the life of the wells at the current rate of decline.

2) Navajo is in possession of OCD's suggested location for the 14 new monitor wells to be installed by June 2010. Navajo is requesting that three of the wells be moved slightly to better delineate potential problem areas. I have attached a map denoting OCDs locations and the proposed new locations. The wells we propose to move are numbers 4, 5 and 8. Number 4 would be moved to put it in line between our water wells and two active injection wells. Number 5 would be moved to the north side of the South Tank Farm to give us an upgradient well in front of that tank farm to go with the downgradient wells Numbers 14 and 12. Finally, number 8 will be moved slightly south to get off of the location and downgradient of the two production wells in that area.

3) Navajo wishes to verify with OCD that boreholes drilled at any new C-141 spills must go to groundwater. Drilling to groundwater (vs. determining maximum vertical depth plus 10 feet) opens a vertical pathway which, though plugged, may provide for movement of contaminants to groundwater that may not otherwise have occurred. Frankly, Navajo is perplexed how there could be any doubt that groundwater could be contaminated if the vertical depth of contamination is delineated PLUS 10 feet!

OCD responses are:

1) The 15 ft. screen allow for low-flow sampling methods and for collecting a discrete water sample from a representative zone in the ground water (GW). A larger screen means more clean water mixed with contaminants or a more diluted sample that may not be representative of the GW zone of interest would be collected. Therefore, OCD requires that MWs be installed with maximum 15 ft. screens straddling the water table.
2) We need to verbally look at the map and discuss. I'm not sure the rationale for your locations as I relied GW flow direction with a review of potential point sources at the facility for positioning the MWs. Why don't you schedule a telephone conference call with Michael Leighton (City of Lovington) and me to discuss together. The agencies need to understand your rationale and you should include some potentiometric and/or piezometric surface maps from GW monitoring w/ an explanation supporting the change.
3) This requirement was required for historical C-141 spill/release investigations, since NRC did not excavate contaminated soils after spills/releases occurred. Later, NRC proposed in a meeting that investigation of the historical C-141 release areas was more practical based on its modus operandi on spills/releases in the past. For any new spills/releases, NRC has vowed to act quickly to remove contamination after a release, which was not done in the past..... OCD would recommend that NRC core boreholes so that it can view the substrate and use best professional judgment and a field PID to identify visual staining, odors, etc. for collecting analytical samples that confirm the vertical and horizontal extent of release/spill.

Please setup a telephone conference call w/ the City and OCD and provide some water table maps that support your locations. I think Michael has the map you attached to your most recent message on this subject.

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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Thursday, April 08, 2010 7:35 AM
To: Chavez, Carl J, EMNRD; mleighton@lovington.org
Cc: Lackey, Johnny; Bob Allen; David Boyer
Subject: RE: Clarrification

Carl

Have you got some guidance for us yet on this?

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, April 01, 2010 5:07 PM
To: Moore, Darrell; mleighton@lovington.org
Cc: Lackey, Johnny; Bob Allen; David Boyer
Subject: RE: Clarrification

Darrell:

I'm in receipt of your clarification request and will get back with you next Tuesday. 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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Thursday, April 01, 2010 2:24 PM
To: Chavez, Carl J, EMNRD; 'mleighton@lovington.org'
Cc: Lackey, Johnny; 'Bob Allen'; 'David Boyer'
Subject: Clarrification

Carl

Navajo has some questions that need to be answered so we can move forward with delineation of Lea Refinery. The questions are as follows:

4) The permit requires that we install 15' screens in the new monitor wells. Navajo requests that this requirement be changed to 25' screens. With the installation last year of the new monitor wells and subsequent gauging, we have discovered that the aquifer is dropping about 2' a year. The added screening will add about 5 years to the life of the wells at the current rate of decline.

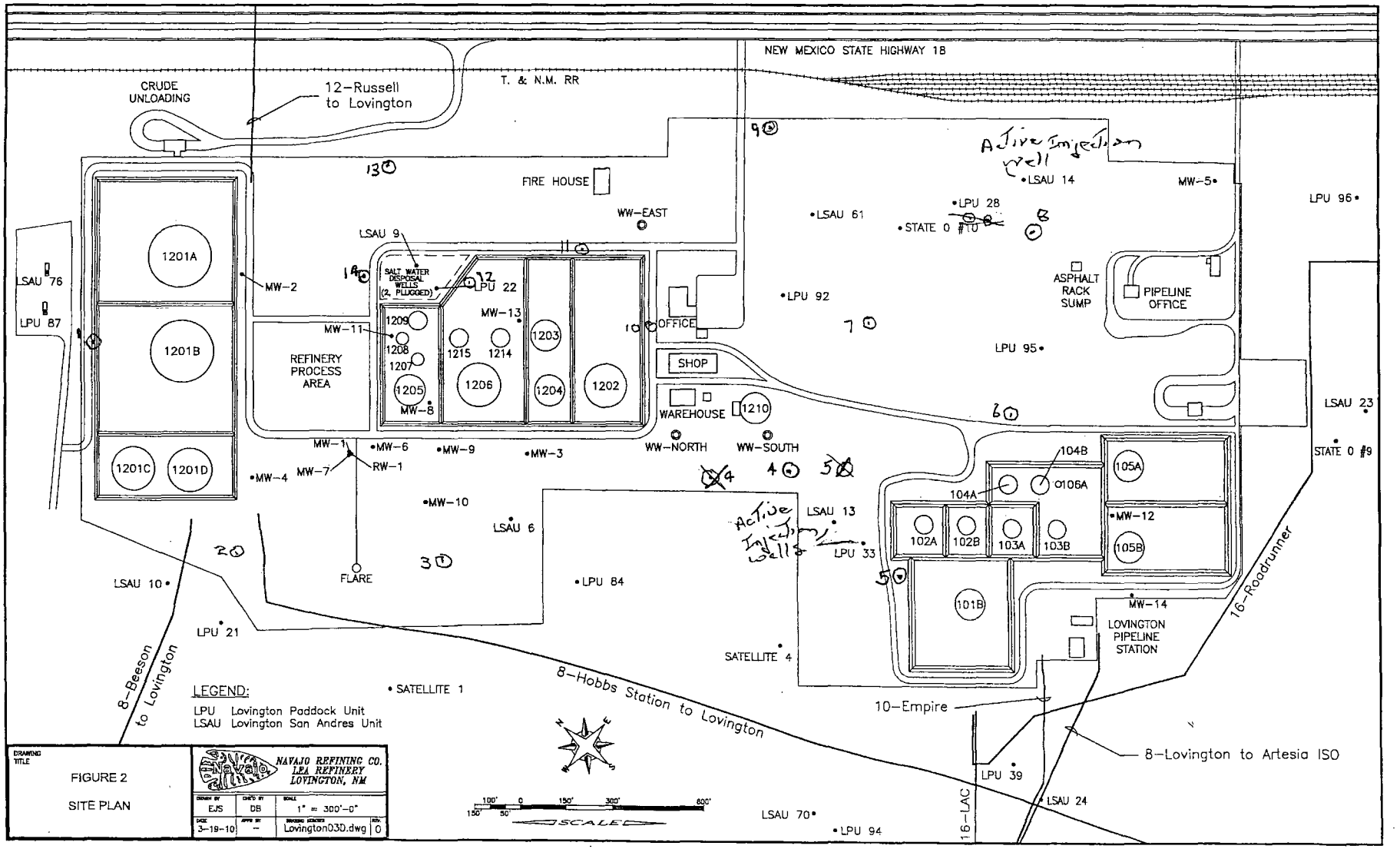
5) Navajo is in possession of OCD's suggested location for the 14 new monitor wells to be installed by June 2010. Navajo is requesting that three of the wells be moved slightly to better delineate potential problem areas. I have attached a map denoting OCDs locations and the proposed new locations. The wells we propose to move are numbers 4, 5 and 8. Number 4 would

be moved to put it in line between our water wells and two active injection wells. Number 5 would be moved to the north side of the South Tank Farm to give us an upgradient well in front of that tank farm to go with the downgradient wells Numbers 14 and 12. Finally, number 8 will be moved slightly south to get off of the location and downgradient of the two production wells in that area.

6) Navajo wishes to verify with OCD that boreholes drilled at any new C-141 spills must go to groundwater. Drilling to groundwater (vs. determining maximum vertical depth plus 10 feet) opens a vertical pathway which, though plugged, may provide for movement of contaminants to groundwater that may not otherwise have occurred. Frankly, Navajo is perplexed how there could be any doubt that groundwater could be contaminated if the vertical depth of contamination is delineated PLUS 10 feet!

Thank you for your prompt attention to this matter. If there are any questions I can answer, please let me know.

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451


NEW MEXICO STATE HIGHWAY 18
T. & N.M. RR
CRUDE UNLOADING
12–Russell to Lovington
FIRE HOUSE
WW–EAST
LSAU 9
SALT WATER DISPOSAL WELLS (2, PLUGGED)
LPU 22
MW–2
MW–11
MW–13
1201A
1201B
1201C
1201D
1209
1208
1207
1205
1215
1214
1206
1203
1204
1202
REFINERY PROCESS AREA
OFFICE
SHOP
WAREHOUSE
1210
WW–NORTH
WW–SOUTH
MW–1
MW–6
MW–9
MW–3
MW–4
MW–7
RW–1
MW–8
MW–10
FLARE
LSAU 6
LSAU 10
LPU 21
LPU 84
LSAU 13
LPU 33
LSAU 14
MW–5
LPU 28
LSAU 61
STATE 0 #10
LPU 92
ASPHALT RACK SUMP
PIPELINE OFFICE
LPU 95
LPU 96
LSAU 23
STATE 0 #9
104B
104A
0106A
105A
105B
102A
102B
103A
103B
MW–12
101B
MW–14
LOVINGTON PIPELINE STATION
16–Roadrunner
SATELLITE 4
SATELLITE 1
LSAU 76
LPU 87
8–Beeson to Lovington
8–Hobbs Station to Lovington
10–Empire
8–Lovington to Artesia ISO
LPU 39
LSAU 24
16–LAC
LSAU 70
LPU 94
LEGEND:
LPU Lovington Paddock Unit
LSAU Lovington San Andres Unit
SCALE
NAVAJO REFINING CO.
LEA REFINERY
LOVINGTON, NM
FIGURE 2
SITE PLAN
EJS
DB
1" = 300'-0"
3-19-10
Lovington03D.dwg
0

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, February 18, 2010 7:48 AM
To: 'Moore, Darrell'
Cc: Lackey, Johnny; 'mleighton@lovington.org'; VonGonten, Glenn, EMNRD; Hill, Larry, EMNRD; Sanchez, Daniel J., EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

I did not hear back from Navajo Refining Company (NRC) on the tank retrofit voice mail message related to this correspondence. Therefore, please find below OCD final comments/issues to resolve moving forward.

Triple-rinse Process:

1) The agencies (OCD & City of Lovington) view this correspondence to me your "Modification" request to allow the triple rinse process to be allowed at the facility.
2) This procedure shall apply to any containers containing chemicals including totes, etc.
3) The agencies received a diagram with the locations and NRC indicates that rinsate from the process goes into the plant sewer drain. Please confirm that the rinsate going into the sewer drain is routed to the nearby POTW for eventual treatment. Discharging rinsate with toxic chemicals or pollutants into a septic drainage system and into the soils and ground water or environment is prohibited and in violation of WQCC Regulations and discharge permit.

Sumps & Adequate Controls:

1) The paving and cement work is to be completed by June 30, 2010. Send the agencies a map to scale depicting the locations of the paving and any engineering drawings by May 30, 2010.

Above Ground Tanks, Secondary Containment & Retrofit Schedule:

1) TK 106A is out-of-service: What chemical was stored in the tank? Does the tank have integrity? Was an internal inspection of tank conducted?
2) The description of the "tank retrofit" was addressed by the submittal of the "Method Statement & Risk Assesment" (Praxair Services, Inc.). On first inspection the term "retrofit", there is the impression that a double tank bottom may be installed, but this is not the case. The agencies note that the term "Risk Assesment" is not a tank retrofit, but a leak detection system (LDS) emplaced underneath and around the tanks to detect leaks at a minimum leak detection rate or accuracy of 0.05 gal/hr. or ~1.2 gal/day. Consequently, the agencies do not consider the Praxair detection system to be a "tank retrofit" per se. The LDS prohibits the installation of liners extending from the perimeter of the tanks, throughout the bermed areas with liners keyed into the ground for tank overflows, spills, etc. NRC has indicated that tank overflow alarms are installed on all its tanks; shall apply to all permanent above ground tanks containing chemicals; gauging of fluids is routinely monitored within the tanks for leaks; the standard required API 10-year internal tank inspection applies to all tanks; the RCRA 90-day out-of-service fluid removal w/ internal inspection applies to its tanks; and the additional monitor wells recently required and agreed to by NRC from the agencies to monitor ground water for leaks, etc. from tanks at the facility all may support the use of this LDS to satisfy the agencies original intent to emplace double bottom liners within the berms of all tanks. Note that the agencies shall determine that there is a leak in a tank when any concentration of tracer is detected, which will require confirmation monitoring over an approved time frame to confirm a leak and/or to declare the leak detection as a false positive reading from LDS monitoring.

   The agencies need verification that the above is true before it can approve the LDS installation around the tanks in accordance with the schedule proposed by NRC. Please confirm that the above is true, accurate, and provide any other additional basis for the agencies to approve the installation of the LDS with monitoring schedule in lieu of the tank retrofit and/or secondary containment requirement of the permit. Also, please confirm that any new above ground tank designs and installations shall be approved by the agencies and shall be constructed over a cement ring with an approved liner beneath the tank and within the ring with leak detection tubing to physically confirm when a tank is leaking. A liner shall also be emplaced from the perimeter of the tank, throughout the

bermed area, and keyed into soil or land to prevent spills from impacting soils and ground water at the facility. The Praxair LDS may be installed as part of the new tank requirements under the discharge permit.

Please note, if NRC cannot commit to the above, the agencies disapprove the Praxair LDS Method in lieu of tank retrofits, etc. required under the discharge permit.

The agencies require your response within 7 working days from the date of this message or by COB Monday, March 1, 2010. 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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Monday, January 11, 2010 4:29 PM
To: Chavez, Carl J, EMNRD; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; Hill, Larry, EMNRD; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Carl

Below, I have answered each of your concerns regarding our Discharge Permit GW-014 for our Lovington facility. If you have any questions, please call me at 575-746-5281.

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, December 11, 2009 12:02 PM
To: Moore, Darrell; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; Hill, Larry, EMNRD; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

Some clarifications with a submittal date deadline of January 11, 2010 based on your responses to OCD's November 12, 2009 e-mail in your November 25, 2009 e-mail communiqué.

Triple-rinse process: While NRC provided a map depicting the locations (verification of process drainage and secondary containment) for rinsing so that storage of triple rinsed containers do not have to be on impermeable pads, etc., it did not provide the equivalent of an SOP or process that indicates how you demarcate containers with date labels indicating the date and time of triple-rinse so that inspectors at the site can determine whether NRC is following an approved process. The process will also help NRC track triple rinsed containers at the facility that may be stored or stockpiled in violation of the permit. The Artesia Refinery Triple rinse process should serve as an example for the Lovington Refinery. ***Navajo: See the attached procedure for Triple Rinsing Drums.***

Chemical Storage Area: OCD interprets NRC's response to confirm that there is physical separation between incompatible chemicals stored on this pad and that a spill on one site of the pad will be prevented from migrating onto the other side of the pad preventing an explosion or fire. If this is not the case, please clarify as the angle of the photo provided, while displaying separate sumps, a physical berm was not discernible between the pad area within this chemical storage area. While a chemical storage area on a impermeable pad with sumps is good, the proximity of incompatible chemicals is of concern. ***Navajo: See attached additional photo for clarification. (Chemical Storage Pad.jpg) There is a concrete divider separating the storage areas to prevent migration and each side has a sump.***

Sumps and Adequate Controls: The Agencies commented on storm water in the Communique No. 2 correspondence letter (letter) dated 12/10/2009 from the October 8, 2009 meeting. The letter was mailed out the afternoon of 12/10/2009. A map to scale displaying the locations for installation of paving and curbing work (estimated completion date 6/30/2010) and cement pad under the Crude Furnace Pass Control Vales (estimated completion date 3Q-2010) is required to fully address this issue. The Agencies were expecting a map with proposed locations based on NRC's evaluation of its facility; however, it appears NRC has completed a risk-based evaluation of its facility for implementing controls and/or secondary containment in areas most at risk of a major release, etc. Submit the aforementioned map by January 11, 2010 that will assist NRC and Agencies with a review of the facility and the controls planned by NRC that is supposed to help protect the City's WHPA or fresh water.
Navajo: The paving and curbing work estimates have been received by Navajo from the contractor. The authorization for expenditure (AFE) has been submitted to Holly Corporate for approval. Once approved and signed by Holly Corporate then detailed drawings of the additional containment will be developed and approved by Navajo and construction will begin. Copies of the AFE worksheets that outline the work to be done with cost estimates were submitted to the agency on 11/25/2009. Once approved and construction drawings are developed Navajo will submit these to OCD for approval prior to construction of the additional containment.

Storm Water: The Agencies commented on storm water in the Communique No. 2 correspondence letter (letter) dated 12/10/2009 from the October 8, 2009 meeting. The letter was mailed out the afternoon of 12/10/2009. NRC's response to this item appears to also address the section on "Sumps and Adequate Controls" above. If not, the Agencies are looking for a map with locations that NRC believes controls should be placed to minimize environmental impacts from spills or releases at high-risk locations of its facility. ***Navajo: See response under "Sumps and Adequate Controls"***

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Please contact me if you have questions. Thank you.

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Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

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Chemical Storage Area (Section 17*ii*)

The November 6, 2009 correspondence included a drawing 81-11-D dated 5/14/08 that depicts a 30 ft. x 60 ft. chemical storage pad, but the curb that separates areas to keep incompatible chemicals segregated from compatible chemicals on the storage pad cannot be discerned in the drawing. The OCD had been aware of the recently constructed pad to store chemicals, but OCD's requirement under this discharge permit was to construct a second pad to separate incompatible chemicals stored on the pad. This does not appear to have been completed; however, if NRC can show the separation on the existing chemical storage pad to the Agencies, this may be acceptable. In fact, the drawing depicts drainage to one sump; which could be catastrophic in the event of an emergency where incompatible container fluids migrate to the only sump area resulting in an explosion and fire across the facility.... Please confirm in a written statement that the chemical storage pad is constructed properly will NOT allow incompatible chemicals to interact and result in an explosion

or fire condition at the facility. **NAVAJO RESPONSE: The chemical storage pad has two sides with two separate sumps divided by a cement wall. I have attached a photo of the pad. (Chemical Pad 2.jpg)**

Sumps (Alternate Schedule) and adequate "Controls" (Section 11A)

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Storm Water (Section 18):

As part of the approval of the sump decommissioning or "Controls" under the discharge permit, OCD requested that NRC conduct an evaluation of the adequacy of controls throughout the Lovington Refinery to assess and determine where additional controls could be added in high-risk release locations to prevent releases from impacting vast storm water or non-contact areas within the refinery property. In addition, in the October 22, 2009 Communique No 1 e-mail, the OCD indicated that while the "Controls" issue within the discharge permit may not be a violation at this time, there is a potential based on the type of release and lack of controls that this provision of the discharge permit may become a violation in the future? During the October 8, 2009 meeting, the OCD verbally displayed and discussed an example of a C-141 release that spanned approximately 1000 ft., which was later found to have been associated with releases from multiple valves that had inadvertently been left open along the pipeline. This was cited as a possible example of lack of controls that NRC should evaluate for the Lovington Refinery. Please provide a technical evaluation of "Controls" at the facility that may help to prevent major releases to storm water or non-contact areas from refinery activities. For example, high risk areas near process areas or areas with the most potential or threat for a major release. NRC may determine that additional sumps, process drains, etc. may be required to fulfill the "Controls" aspect of the discharge permit. Please note that a determination of adequate controls when there are inadequate controls may result in a violation of the permit and each release to the environment at the facility will be assessed for adequate controls. The OCD is aware of berms around tanks, which constitute controls for these bulk storage containers, but where releases occur into storm water or non-contact areas, these are of concern to the Agencies, up to and including adding pavement, curbs, etc. to control spills and releases. **NAVAJO RESPONSE: As Navajo has stated before, we are in full compliance with all Storm Water regulations. We have constructed a berm around the entire facility so that there is no run-on or run-off. We have no Storm Water discharge. I have attached the inspection report that Richard Powell with NMED wrote after his storm water inspection of our facility (Lovington Storm Water Inspection. PDF). There seems to be some confusion about what is and isn't storm water releases and what the Storm Water regulations cover. Having said that, Navajo is extremely concerned with protecting the groundwater at our Lovington Facility. We have been proactive in adding high and high-high level alarms on all tanks, and these are monitored 24 hours a day from the Lovington Refinery Control Room in addition to routine visual inspections of the tanks and local level monitoring by the plant operators and maintenance staff. Spills are dug up immediately and soil borings are done to determine extent of contamination and sample analysis conducted to ensure remediation effort is effective. We have added cement and curbing "controls" in areas that are susceptible to spills and I have attached copies of three separate Capital Budget Projects (2010 Lovington Concrete Work.doc, 2010 Lovington H-103 Concrete at Passes.doc, and 2010-Lovington Paving and Curbing.doc) scheduled to be completed in 2010 to further enhance controls already in place to show the effort Navajo has put in and continues to put in to protect groundwater.**

Above Ground Tanks Secondary Containment with Leak Detection Retrofit Schedule (Section 9)

The November 6, 2009 letter with attached table and alternate schedule for compliance is lacking the "Retrofit Date" column and date of December 31, 2013. Provide a brief summary of the retrofit specifications planned for this date. Include the standard 10-year API Tank Test schedule for each tank or is this the "Last Integrity Test Date" depicted in the table?. The "Last Integrity Test Date should indicate "pass/fail" and additional description of any corrective actions taken after tank failed. Please include a denotation for Praxair leak detection test date with pass/fail similar to the above sentence. Include denotation for all tanks with the "High Level Alarms" installed to facilitate future tracking of tanks with and without alarms. Finally, could or is tank gauging be part of the tank monitoring procedure at the refinery in order to detect potential pinhole leaks in tanks? If so, the frequency of gauging could be included in the table. **NAVAJO RESPONSE: The revised tank leak detection schedule is attached. (Copy of Lovington Tank Leak Detection Project.xls).**

Note that any new tanks must comply with Section 9 requirements and must be approved by the Agencies with engineering drawings, etc. under a modification request.

Closure Plan with Cost Estimate for Ground Water Monitoring:

The closure plan is due November 30, 2009. The OCD has sent guidance for elements of a ground water closure plan from 20.6.2 NMAC, OCD regulations, and a cost estimate for closure at another refinery to assist NRC with development of a closure plan with financial assurance estimate for post closure monitoring under the discharge permit. It is doubtful that the letter under development by the Agencies will be completed before the due date; consequently, NRC must make some assumptions based on elements of a closure plan, additional MWs, monitoring costs for 30 years, inflation, etc., that must be a legitimate estimate in order to satisfy this provision of the discharge permit.

Submitted Reports:

This "Environmental Status Report dated November 6, 2009 was apparently not yet complete or available at the time of the October 8, 2009 meeting. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

"Hydrocarbon Release Investigation April 29, 2009 – May 1, 2009" was submitted to address Sections 17(iv & vi) and 19 of the discharge permit. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

Please submit the remaining issues highlighted in yellow above from Communique No. 1 and re-submit the required information by COB on Friday, November 27, 2009, or date approved by the Agencies. Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
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This email has been scanned using Webroot Email Security.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, January 12, 2010 4:14 PM
To: 'Moore, Darrell'; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; Hill, Larry, EMNRD; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

I'm in receipt and will respond soon. FYI, you only need to copy Michael Leighton and me in future correspondence. Thank you.

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From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Monday, January 11, 2010 4:29 PM
To: Chavez, Carl J, EMNRD; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; Hill, Larry, EMNRD; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Carl

Below, I have answered each of your concerns regarding our Discharge Permit GW-014 for our Lovington facility. If you have any questions, please call me at 575-746-5281.

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, December 11, 2009 12:02 PM
To: Moore, Darrell; Lackey, Johnny
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Darrell and Johnny:

Some clarifications with a submittal date deadline of January 11, 2010 based on your responses to OCD's November 12, 2009 e-mail in your November 25, 2009 e-mail communiqué.

Triple-rinse process: While NRC provided a map depicting the locations (verification of process drainage and secondary containment) for rinsing so that storage of triple rinsed containers do not have to be on impermeable pads, etc., it did not provide the equivalent of an SOP or process that indicates how you demarcate containers with date labels indicating the date and time of triple-rinse so that inspectors at the site can determine whether NRC is following an approved process. The process will also help NRC track triple rinsed containers at the facility that may be stored or stockpiled in violation of the permit. The Artesia Refinery Triple rinse process should serve as an example for the Lovington Refinery. ***Navajo: See the attached procedure for Triple Rinsing Drums.***

Chemical Storage Area: OCD interprets NRC's response to confirm that there is physical separation between incompatible chemicals stored on this pad and that a spill on one site of the pad will be prevented from migrating onto the other side of the pad preventing an explosion or fire. If this is not the case, please clarify as the angle of the photo provided, while displaying separate sumps, a physical berm was not discernible between the pad area within this chemical storage area. While a chemical storage area on a impermeable pad with sumps is good, the proximity of incompatible chemicals is of concern. ***Navajo: See attached additional photo for clarification. (Chemical Storage Pad.jpg) There is a concrete divider separating the storage areas to prevent migration and each side has a sump.***

Sumps and Adequate Controls: The Agencies commented on storm water in the Communique No. 2 correspondence letter (letter) dated 12/10/2009 from the October 8, 2009 meeting. The letter was mailed out the afternoon of 12/10/2009. A map to scale displaying the locations for installation of paving and curbing work (estimated completion date 6/30/2010) and cement pad under the Crude Furnace Pass Control Vales (estimated completion date 3Q-2010) is required to fully address this issue. The Agencies were expecting a map with proposed locations based on NRC's evaluation of its facility; however, it appears NRC has completed a risk-based evaluation of its facility for implementing controls and/or secondary containment in areas most at risk of a major release, etc. Submit the aforementioned map by January 11, 2010 that will assist NRC and Agencies with a review of the facility and the controls planned by NRC that is supposed to help protect the City's WHPA or fresh water.
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Above Ground Tanks Secondary Containment with Leak Detection Retrofit Schedule (Section 9)

The November 6, 2009 letter with attached table and alternate schedule for compliance is lacking the "Retrofit Date" column and date of December 31, 2013. Provide a brief summary of the retrofit specifications planned for this date. Include the standard 10-year API Tank Test schedule for each tank or is this the "Last Integrity Test Date" depicted in the table?. The "Last Integrity Test Date should indicate "pass/fail" and additional description of any corrective actions taken

after tank failed. Please include a denotation for Praxair leak detection test date with pass/fail similar to the above sentence. Include denotation for all tanks with the "High Level Alarms" installed to facilitate future tracking of tanks with and without alarms. Finally, could or is tank gauging be part of the tank monitoring procedure at the refinery in order to detect potential pinhole leaks in tanks? If so, the frequency of gauging could be included in the table. **NAVAJO RESPONSE: The revised tank leak detection schedule is attached. (Copy of Lovington Tank Leak Detection Project.xls).**

Note that any new tanks must comply with Section 9 requirements and must be approved by the Agencies with engineering drawings, etc. under a modification request.

Closure Plan with Cost Estimate for Ground Water Monitoring:

The closure plan is due November 30, 2009. The OCD has sent guidance for elements of a ground water closure plan from 20.6.2 NMAC, OCD regulations, and a cost estimate for closure at another refinery to assist NRC with development of a closure plan with financial assurance estimate for post closure monitoring under the discharge permit. It is doubtful that the letter under development by the Agencies will be completed before the due date; consequently, NRC must make some assumptions based on elements of a closure plan, additional MWs, monitoring costs for 30 years, inflation, etc., that must be a legitimate estimate in order to satisfy this provision of the discharge permit.

Submitted Reports:

This "Environmental Status Report dated November 6, 2009 was apparently not yet complete or available at the time of the October 8, 2009 meeting. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

"Hydrocarbon Release Investigation April 29, 2009 – May 1, 2009" was submitted to address Sections 17(iv & vi) and 19 of the discharge permit. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

Please submit the remaining issues highlighted in yellow above from Communique No. 1 and re-submit the required information by COB on Friday, November 27, 2009, or date approved by the Agencies. 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
(Pollution Prevention Guidance is under "Publications")

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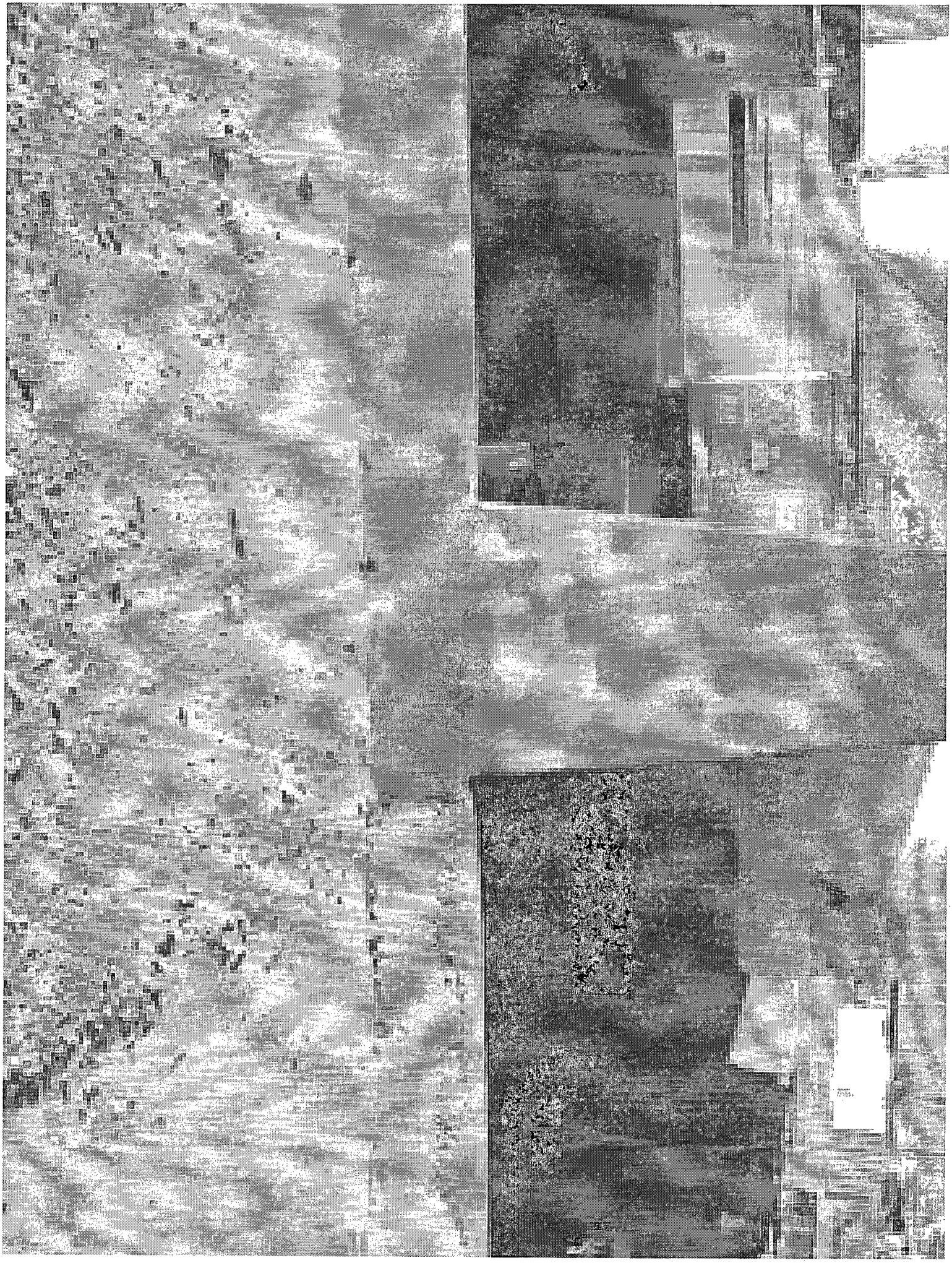
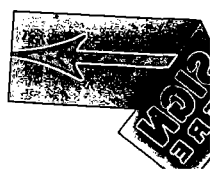


TRIPLE RINSE PROCESS FOR DRUMS

The following is the procedure for triple rinsing drums:

1) **Empty the drum to the lowest possible level.**
2) **Fill the drum with water to 25% of capacity. Replace bungs.**
3) **Tip drum on its side and roll back and forth, ensuring at least one complete revolution.**
4) **Stand the drum on its end and tip back and forth several times to rinse the corners.**
5) **Turn the drum over on its other end and repeat this procedure.**
6) **Empty the rinsate into the plant sewer drain.**
7) **Repeat this procedure two more times.**
8) **Mark the date on the drum in grease pencil along with "XXX"**
9) **Replace bungs and store drum in storage area on its side with the bungs aligned horizontally.**



Site Location: **Terminal** Praxair Job No.: **111xxx111**

Inoculation and Sampling Information:

	Inoculation:	Sampling:
Start Date:	Month 6, 2008	Month 6, 2008
Completion Date:	Month 13, 2008	Month 13, 2008
	Job Completion Date:	**Month 13, 2008**

Testing Results:

Facility:	System:	Type:	Diameter:	Product:	Tracer:	Result:	
BP	Tank 1	AST	50 ft	Diesel	A	Passed	
BP	Tank 3	AST	50 ft	Diesel	A	Passed	
BP	Tank 7	AST	65 ft	Unleaded Gasoline	A	Passed	

- Project Manager
Date: MO/26/2008

Praxair Services, Inc. hereby certifies that the above listed systems(s) have been tested by means of Tracer Tight®, which has been evaluated by a third party according to protocols issued and approved by the United States Environmental Protection Agency (EPA) as being able to detect a leak at a rate of 0.05 gallons per hour with a Probability of Detection (PD) of 0.97 and a Probability of False Alarm (PFA) of 0.029. Tracer concentrations are report in micrograms per liter (ug/L). The Tracer Tight® non-volume metric test and does not report in gallons per hour. If you have any questions or concerns, please call Praxair Services, Inc. at 800-989-9929 ext.234.

3755 N. Business Center Drive
Tucson, Arizona 85705
Toll Free (800) 989-9929
Tel: (520) 888-9400
Fax: (520) 293-1306

Tracer Tight® Leak Test

March 2008 Testing

Three Aboveground Storage Tanks
Terminal
City, ST

Praxair Job No. 10000000

Prepared for:

Client
1111 Business Street
City, ST 11111

Tel: 512-555-1111

Attention: First Last Name

Submitted by:

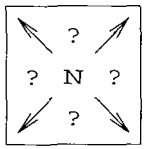
Praxair Services, Inc.
Project Manager

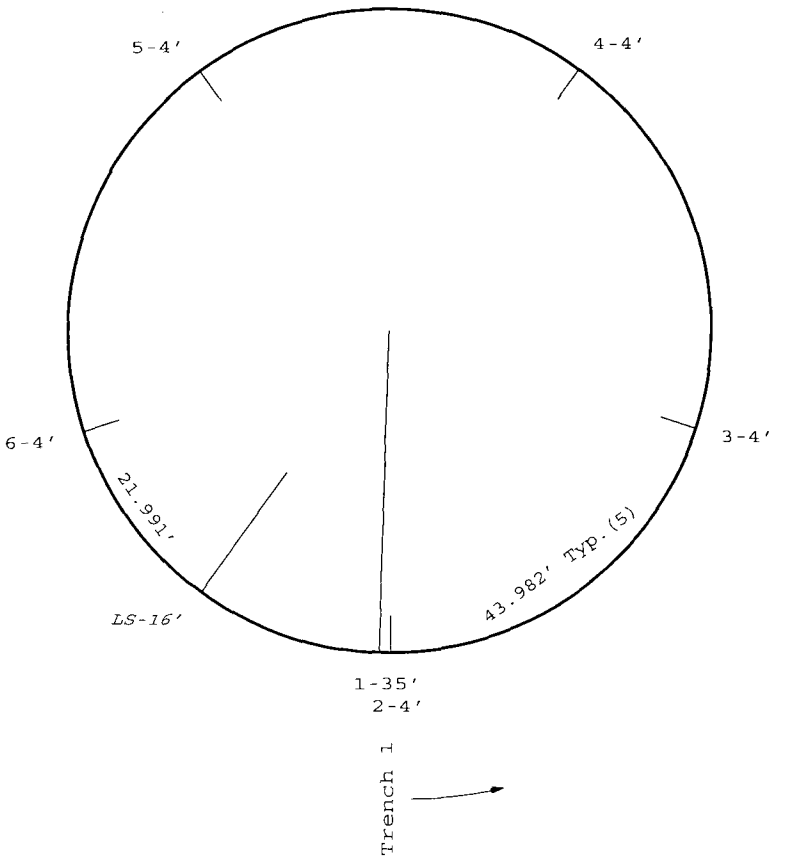
E-Mail: Todd_Waltz @ Praxair.com
Website: http://www.praxair.com/services

PRAXAIR

Praxair Services, Inc.

☐ Air Blank
(Up Wind)





E X P L A N A T I O N

1-35′	Probe Number and Depth
———	Probe Location
LS-16′	Leak Simulation Probe

Probe Dimension Chart
1 Probe at 35.0 ft.
5 Probes at 4.0 ft.
6 Total Probes
55.00 Total Length
219.91 ft. Circumference
5 Trenches
Note: All Trench Distances Measured On The Arc !

0 10 20
f e e t

TRC Job# _____

70′ Dia.
20′ P.R.

☐ Air Blank
(Down Wind)

File:AST-070 Size:A
Arc:AST-PR20 Date:07-21-08

70 ft. Diameter AST
Circumference: 219.9 feet
Probe Radius: 20.0 feet
Standard Radial Probe Placement

S A M P L I N G L O C A T I O N S

F i g u r e 1

January 8, 2010

NAVAJO REFINING, LOVINGTON TANK LEAK DETECTION SCHEDULE

TANK ID	TYPE OF TANK	HIGH LEVEL ALARM	GAUGING FREQUENCY	NEW/USED	VOLUME (bbl)	CHEMICAL STORED	YEAR BUILT (Tank age)	RETROFIT DATE	Leak Detection Pass/Fail	Last API 653 Test Date (Pass/Fail)
Priority 1										
2013										
T-101B	EFR	Yes	Daily	USED	70,000	Desulfurized Naphtha	1974 (35 yrs)	On or before10/30/2013	*	** 1995 (Pass)
T-102B	EFR	Yes	Daily	USED	35,000	Straight Run Gasoline	1973 (36 yrs)	On or before10/30/2013	*	** 2002 (Pass)
T-1201A	EFR	Yes	Daily	USED	154,500	Crude Oil	1973 (36 yrs)	On or before10/30/2013	*	** 2008 (Pass)
T-1201B	EFR	Yes	Daily	USED	154,500	Crude Oil	1973 (36 yrs)	On or before10/30/2013	*	** 2008 (Pass)
T-103A	VFR	Yes	Daily	USED	30,000	Raw Diesel	1973 (36 yrs)	On or before10/30/2013	*	** 1991 (Pass)
T-103B	VFR	Yes	Daily	USED	30,000	Raw Diesel	1973 (36 yrs)	On or before10/30/2013	*	** 1991 (Pass)
T-1204	VFR	Yes	Daily	USED	43,860	Raw Diesel	1973 (36 yrs)	On or before10/30/2013	*	** 1991 (Pass)
T-1202	EFR	Yes	Daily	USED	108,130	Crude Oil	1973 (36 yrs)	On or before10/30/2013	*	** 2002 (Pass)
T-1214	VFR	Yes	Daily	USED	20,000	Gas Oil	1980 (29 yrs)	On or before10/30/2013	*	** 2006 (Pass)
T-1215	VFR	Yes	Daily	USED	20,000	Heavy Slop	1980 (29 yrs)	On or before10/30/2013	*	** 2002 (Pass)
T-1207	IFR	Yes	Daily	USED	10,800	Light Slop Oil	1973 (36 yrs)	On or before10/30/2013	*	** 2006 (Pass)
Priority 2										
T-102A	EFR	Yes	Daily	USED	35,000	Desulfurized Naphtha	1973 (36 yrs)	On or before12/31/2013	*	** 1991 (Pass)
T-1203	EFR	Yes	Daily	USED	53,800	Atmos Gas Oil	1973 (36 yrs)	On or before12/31/2013	*	** 2008 (Pass)
T-104A	VFR	Yes	Daily	USED	15,000	Raw Kerosene	1974 (35 yrs)	On or before12/31/2013	*	** 1991 (Pass)
T-104B	VFR	Yes	Daily	USED	15,000	Atmos Gas Oil	1974 (35 yrs)	On or before12/31/2013	*	** 1991 (Pass)
T-1205	VFR	Yes	Daily	USED	30,700	Heavy Vacuum Gas Oil	1973 (36 yrs)	On or before12/31/2013	*	** 2005 (Pass)
T-1206	VFR	Yes	Daily	USED	97,180	Atmos Gas Oil	1973 (36 yrs)	On or before12/31/2013	*	** 2002 (Pass)
T-1209	EFR	Yes	Daily	USED	18,000	Light Slop Oil	1973 (36 yrs)	On or before12/31/2013	*	**Out of Service**
1201C	VFR	Yes	Daily	New 2005	97,000	Waste Water	2005 (4 yrs)	On or before12/31/2013	*	New 2005
1201D	VFR	Yes	Daily	USED	97,000	Waste Water	1973 (36 yrs)	On or before12/31/2013	*	** 2007 (Pass)
T-1208	IFR	Yes	Daily	USED	5,380	Waste Water	1973 (36 yrs)	On or before12/31/2013	*	** 2004 (Pass)

***** - This column will be updated as tanks are tested and will denote Pass or Fail when testing is completed. When leak detection is installed, 20% of the tanks will be tested annually per the Lovington Discharge Permit (GW 014)

****** - API 653 6.4.2 Inspection Intervals

6.4.2.1 Intervals between internal inspections shall be determined by the corrosion rates measured during previous inspections or anticipated based on experience with tanks in similar service.
Normally, bottom corrosion rates will control and the inspection interval will be governed by the measured or anticipated corrosion rates and the calculations for minimum required thickness of tank bottoms (see 4.4.7).
The actual inspection interval shall be set to ensure that the bottom plate minimum thicknesses at the next inspection are not less than the values listed in Table 6-1. In no case, however, shall the internal inspection interval exceed 20 years

6.4.2.2 When corrosion rates are not known and similar service experience is not available to estimate the bottom plate minimum thickness at the next inspection, the internal inspection interval shall not exceed 10 years.

To determine intervals for internal inspections Navajo runs a calculation for corrosion rate when the tank floor is inspected and then determines the longest interval between inspections keeping it to 20 years max.
For new tanks or tanks that have a new floor, Navajo sets the interval at 10 years to establish a corrosion rate for the floor. Our minimum required thickness on a floor is .100", however there are a few exceptions dependant on certain coatings or foundation designs.

Summary of the Praxair Technology that will be used for tank leak detection

Praxair Services' *Tracer Tight* leak detection technology surpasses all other test methods because of its superior sensitivity and compatibility with site operations.
Tracer Tight is a patented leak detection technology, which uses a variety of highly volatile tracer chemicals. The test consists of inoculating the AST with an extremely small amount of tracer chemical.
Probes are installed under and around the tank bottom, which allows the technician to collect soil vapor samples. If there's a leak, the tracer will escape into the soil. Gas chromatography is used to detect tracer at concentrations of 10 parts per trillion.
This allows Praxair Services to identify and locate very small leaks. Typically, leaks as small as 1 gallon per day are easily detectable regardless of the size of the tank.

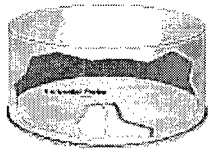
Advantages:

Tanks remain in-service during the entire *Tracer Tight* test.
Leak detection sensitivity of 1 gallon per day regardless of tank size or geometry.
Compatible with any hydrocarbon and virtually any chemical (including all fuel and crude oils)
Test any size tank without loss of sensitivity.

PRAXAIR

Praxair Services, Inc.

TRACERTIGHT® INSTALL & TESTING
Above Ground Storage Tanks
(ASTs)



METHOD STATEMENT & RISK ASSESMENT

Prepared by:

PRAXAIR SERVICES, Inc.
3755 N Business Center Dr
Tucson, AZ 85705

Telephone: **(520) 888-8400**
Facsimile: **(520) 293-1306**

TABLE OF CONTENTS

APPENDICES

1.0 METHOD STATEMENT

1.1 Praxair Services, Inc.

Praxair Services, Inc. is a wholly owned subsidiary of Praxair providing services to the chemical, refinery and transportation industries. The Asset Integrity Management Services (AIMS) group provides leak detection, corrosion control and pipe inspection services.

1.2 Personnel

Praxair Services uses licensed and certified personnel whenever required. Test technicians are trained and certified in the Tracer Tight method. All field personnel have completed Occupational Safety and Health Administration 40-hour Hazardous Materials Training.

1.3 Test Concept

Tracer Tight® leak testing is performed by mixing a volatile chemical concentrate, a tracer, with the product inside a tank or piping system. The tracer is selected for its compatibility with the product in the tank and piping system and its performance characteristics in each specific test environment. The tracer chemical is added to the product in very low concentrations, typically less than 1 part per million (ppm). The tracer has no impact on the physical properties of the product and works with all types of liquids. The tracers are non-corrosive, inert compounds.

The tracer chemical is distributed throughout the tank and piping system by the motion of the product and vapors. The tracer is partitioned between the vapor space and the liquid product. If the product from the tank or pipeline escapes into the soil, the tracer then evaporates out of the product and disperses into the surrounding soil by molecular diffusion.

After the tracer has had time to diffuse and migrate through the soil away from the leak, soil gas samples are collected from a leak detection probe system that is installed under the tank floor and along piping runs. The system is tested by analyzing these samples with a gas chromatograph for the presence of tracer. The detection of tracer in the soil vapor samples is then used as the sole criteria for determining if there is an active leak.

1.4 Probe System Design & Installation

The *TracerTight*® Test utilizes a probe system designed for each tank based on the area of the tank floor. Each probe is effective over a pre-established area. The design determines optimal placement of each probe so that each area of the tank floor is effectively tested by at least one probe

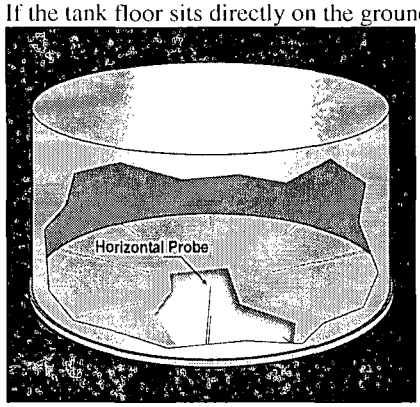
Installation procedures are outlined below:

Tank area is inspected and all utilities and tank design features are taken into account. The leak detection system design is reviewed to ensure that all tank features are considered.

Piping is prepared by cutting, threading and drilling holes in each end section.

Each probe location is checked and cleared to allow access to the soil below the tank floor and proper space allowing probe steel to slide beneath the tank floor without damaging tank floors or liners. In some cases,

where a deep ring-wall exists, a rock drill is used to create neat holes in the concrete for probes to pass through. If the tank floor sits directly on the ground, very shallow trenches need to be dug.



Probes are constructed to meet design specification for length and screening.

Sections of pipe are assembled and inspected for faults.

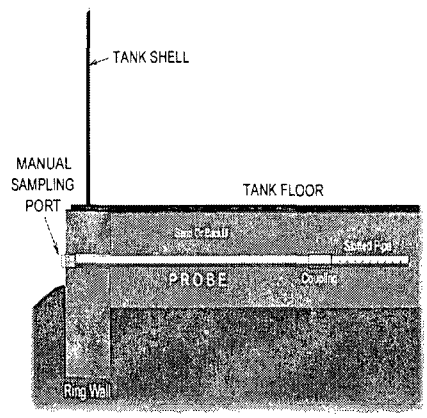
Probe assemblies and equipment are set up for installation and measurements are taken to ensure proper alignment under the tank.

Probes are installed by pounding them horizontally to the desired position beneath the tank floor. Hand pounding equipment designed by Praxair and/or a pneumatic Pierce Airrow is used to hammer probes into the soil beneath the tank floor.

Once installed, each probe is tested for any obstruction interfering with the flow of air required for testing. Vacuum measurements are taken to determine soil permeability and to help identify the need for any system design modifications.

Once each probe has been inspected and approved, a 90 degree elbow (or other attachment as needed) is attached to the outside end followed by a vertical extension to ground level where a termination cap is fixed. This cap will be later replaced by a TracerTight® Termination cap that is designed for easy access sampling and can be resealed for future testing.

All probes are finished flush with the surrounding grade. All excavations are back-filled and area is returned to pre-installation condition.



Once properly installed, the Tracer Tight® Leak Detection System can be used for repeated future testing with minimal service and repair.

1.5 Leak Simulation Procedures

A leak of known size, typically a few gallons, is simulated at the start of each test. A small amount of a tracer is injected below the tank at a midpoint between sampling probes. The leak simulation tracer is a chemical that is similar to but distinguishable from the tracer added to the tank. Detection of this tracer verifies that the transport of tracers throught the soil below the tank is adequate for the detection of a leak.

1.6 Inoculation Procedures

Inoculation is the introduction of the *TracerTight*® compound into the product of the Tank to be tested. This compound (Tracer) is added to the product to achieve the target concentration (typically less than one part per million). This small concentration is enough o allow proper testing of the system. Tracer is injected into the system using the following procedures.

Each tank is inspected for areas of concern. Leakage from valves and connections that may transport tracer to the ground are repaired or isolated before inoculation can proceed.

The tank volume and product level are used to determine the amount otracer needed. The tracer compound is placed in a pressurized container and is then released into the product.

Tracer may be injected into the receipt line while product is being added to the tank, through a gauging hatch or through some other access point such as a low point drain or sampling port.

1.7 Sampling Procedures

For a tightness test with on-site analysis of the tracer the following samples will be collected.

Background Samples – soil gas samples are collected from the monitoring probe system before inoculation to ascertain the background level of the chemical.

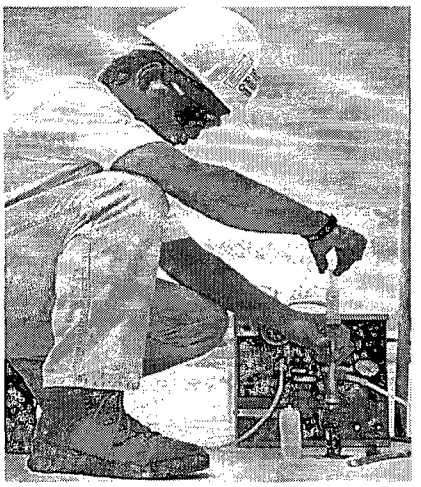
Confirmation Sample – collected to ensure adequate mixing of the Tracer – Product inside the tank.

24-Hour Samples - soil gas samples will be collected from the monitoring probe system 24hrs after confirmation of product / Tracer mixing.

48-Hour Samples - soil gas samples will be collected from the monitoring probe system 48hrs after confirmation of product / Tracer mixing.

For periodic leak detection monitoring, background samples may not be collected. Testing samples may be collected up to 30 days after the inoculation of the system.

Sampling Process - The aboveground end of the probe will be fitted with a probe adaptor and a length of polyethylene tubing leading to a vacuum pump. To ensure adequate flow of gas into the probe, the flow of gas will be monitored by a vacuum gauge.



The volume of air within the probe will be purged by evacuating 2 to 5 liters of gas. The evacuation time in minutes versus the vacuum in inches of mercury (Hg) will be used to calculate the necessary evacuation time. If soil gas does not flow into the sampling probe, an attemplt will be made to clear it. If the probe cannot be cleared it may be retracted and another probe installed. The vacuum will be monitored and recorded for each sample collected.

During the soil gas evacuation, samples will be collected from the evacuation line with a syringe and transferred to designated sample canisters. Subsamples of the soil gas sample will be injected into the GC in volumes ranging from 1 microliter (µL) to 2 mL, depending on the concentration at that particular location.

1.8 Analytical Procedures

The samples are analyzed using a gas chromatograph, equipped with an electron capture detector (ECD) and flame ionization detector (FID). Compounds will be separated in the GC on packed analytical columns in a temperature controlled oven. Nitrogen will be used as the carrier gas. The mobile analytical laboratory also is equipped with Hydrogen and Air cylinders to supply the FID to detect hydrocarbon in the soil gas samples.

1.9 Quality Control

Praxair has incorporated stringent quality assurance and quality control into its Tracer Tight® Leak Detection Method. Trained personnel, equipment calibration checks, background system checks and the leak simulation are designed to eliminate any false detection and ensure a valid test each time.

1.10 Criteria For Determination of Leakage

Determination of leakage is based on the presence or absence of tracer. In principal, any tracer detected indicates a leak. In practice, the act of bringing Tracer to the site creates the potential for the detection of extremely low background levels. Samples are collected from the ambient air around the tanks and from the probes under the tanks before and during the testing. Therefore, the indication of leakage is based on two criteria: the detection of tracer higher than levels present in background samples, and an increase in tracer concentration over time.

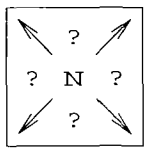
APPENDIX A: Diagram Illustrating AST Probe Array

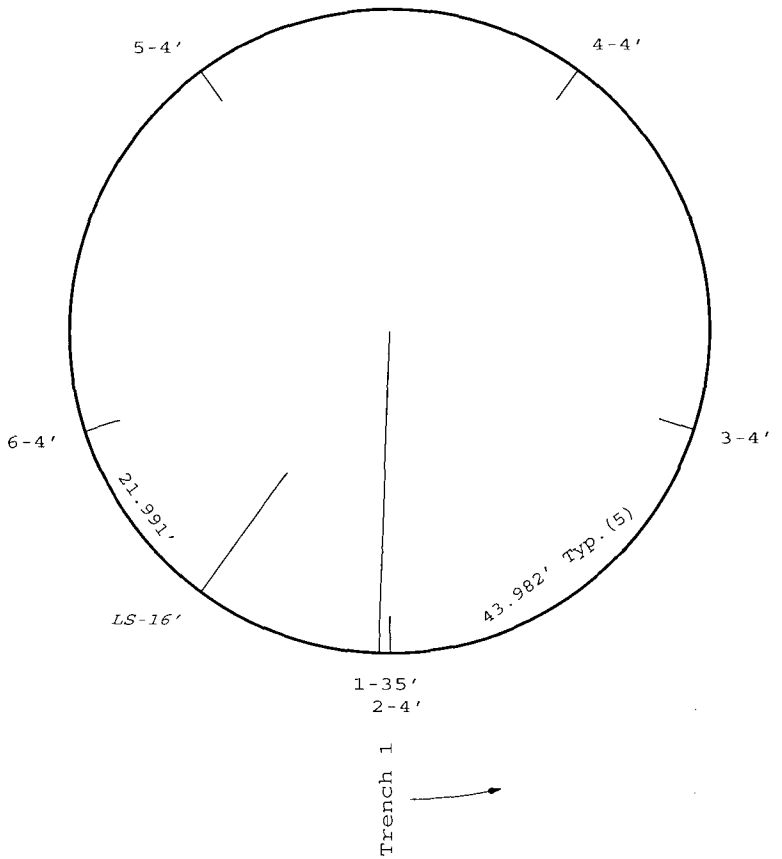
APPENDIX B: Example Test Report

PRAXAIR

Praxair Services, Inc.

☐ Air Blank
(Up Wind)





E X P L A N A T I O N

1-35'	Probe Number and Depth
———	Probe Location
LS-16'	Leak Simulation Probe

Probe Dimension Chart
1 Probe at 35.0 ft.
5 Probes at 4.0 ft.
6 Total Probes
55.00 Total Length
219.91 ft. Circumference
5 Trenches
Note: All Trench Distances Measured On The Arc !

0 10 20
f e e t

TRC Job# _____

70 ft. Diameter AST
Circumference: 219.9 feet
Probe Radius: 20.0 feet
Standard Radial Probe Placement

S A M P L I N G L O C A T I O N S

70' Dia.
20' P.R.

☐ Air Blank
(Down Wind)

File:AST-070 Size:A
Arc:AST-PR20 Date:07-21-08

F i g u r e 1

APPENDIX C: Tailgate Safety Form (example)

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, December 11, 2009 12:02 PM
To: 'Moore, Darrell'; Lackey, Johnny
Cc: Michael Leighton; 'hsncpbm@leaco.net'; Hill, Larry, EMNRD; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

Some clarifications with a submittal date deadline of January 11, 2010 based on your responses to OCD's November 12, 2009 e-mail in your November 25, 2009 e-mail communiqué.

Triple-rinse process: While NRC provided a map depicting the locations (verification of process drainage and secondary containment) for rinsing so that storage of triple rinsed containers do not have to be on impermeable pads, etc., it did not provide the equivalent of an SOP or process that indicates how you demarcate containers with date labels indicating the date and time of triple-rinse so that inspectors at the site can determine whether NRC is following an approved process. The process will also help NRC track triple rinsed containers at the facility that may be stored or stockpiled in violation of the permit. The Artesia Refinery Triple rinse process should serve as an example for the Lovington Refinery. Please submit the information to OCD by January 11, 2010.

Chemical Storage Area: OCD interprets NRC's response to confirm that there is physical separation between incompatible chemicals stored on this pad and that a spill on one site of the pad will be prevented from migrating onto the other side of the pad preventing an explosion or fire. If this is not the case, please clarify as the angle of the photo provided, while displaying separate sumps, a physical berm was not discernible between the pad area within this chemical storage area. While a chemical storage area on a impermeable pad with sumps is good, the proximity of incompatible chemicals is of concern.

Sumps and Adequate Controls: The Agencies commented on storm water in the Communique No. 2 correspondence letter (letter) dated 12/10/2009 from the October 8, 2009 meeting. The letter was mailed out the afternoon of 12/10/2009. A map to scale displaying the locations for installation of paving and curbing work (estimated completion date 6/30/2010) and cement pad under the Crude Furnace Pass Control Vales (estimated completion date 3Q-2010) is required to fully address this issue. The Agencies were expecting a map with proposed locations based on NRC's evaluation of its facility; however, it appears NRC has completed a risk-based evaluation of its facility for implementing controls and/or secondary containment in areas most at risk of a major release, etc. Submit the aforementioned map by January 11, 2010 that will assist NRC and Agencies with a review of the facility and the controls planned by NRC that is supposed to help protect the City's WHPA or fresh water.

Storm Water: The Agencies commented on storm water in the Communique No. 2 correspondence letter (letter) dated 12/10/2009 from the October 8, 2009 meeting. The letter was mailed out the afternoon of 12/10/2009. NRC's response to this item appears to also address the section on "Sumps and Adequate Controls" above. If not, the Agencies are looking for a map with locations that NRC believes controls should be placed to minimize environmental impacts from spills or releases at high-risk locations of its facility.

Above Ground Tanks Secondary Containment and Leak Detection Retrofit Schedule: NRC needs to provide a brief summary or description of the retrofit specifications planned for December 31, 2013, i.e., installation of a double bottom w/ leak detection system, etc. Retrofitting all tanks at one time doesn't seem feasible; consequently, a more realistic or accurate work schedule based on the retrofit is needed. Please address this item by January 11, 2010. The following tanks appear to be missing from the table: Tanks 105A, 105B, 106A, and 1210. Please explain why they should not included in the table and/or add them to the table and resubmit by the aforementioned date.

Closure Plan with Cost Estimate for Ground Water Monitoring: OCD is awaiting a $115,000.00 financial assurance to address this requirement. Submit the financial assurance by January 11, 2010 to satisfy the discharge permit requirement.

Submitted Reports: The City of Lovington and OCD (Agencies) completed a review of the reports and mailed Communique No. 2 letter or correspondence to NRC on 12/10/2009 addressing environmental issues remaining at the facility from the October 8, 2009 meeting in Santa Fe.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
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(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Wednesday, November 25, 2009 9:37 AM
To: Chavez, Carl J, EMNRD; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; kurtporter@valornet.com; VonGonten, Glenn, EMNRD; Hill, Larry, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Carl

Here are our responses to your email of November 12, 2009. The City of Lovington has been Cc ed.

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, November 12, 2009 8:14 AM
To: Moore, Darrell; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; kurtporter@valornet.com; VonGonten, Glenn, EMNRD; Hill, Larry, EMNRD
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

The Agencies (City of Lovington and Oil Conservation Division- OCD) are in receipt of your submittal(s) in response to the October 22, 2009 Communique No. 1 e-mail stemming from the October 8, 2009 discharge permit and communication meeting in Santa Fe. Thank you for your prompt attention to the issues as we move forward to address the discharge permit requirements at the facility. Some other discharge permit related items are included below to assist NRC with any other discharge permit related items that the Agencies are dealing with at this time.

As the agencies move forward to complete the Communique No. 2 letter (letter) based on the October 8, 2009 meeting, the agencies have reviewed some of the submittals addressing Communique No. 1 and have provided comments and/or requirements listed below for a re-submittal to comply with the intent of the discharge permit. In addition, the Environmental Status Report and Hydrocarbon Release Investigation to address Section 17 of the discharge permit were received and currently under review by the Agencies and for consideration in the forthcoming Communique No. 2.

Triple-rinse process and storage for empty containers at the facility (Section 7)

The November 6, 2009 NRC submittal included triple-rinse and triple-rinse drum storage areas depicted on a map (Drawing 81-Z-03-D-01 dated 9/25/07) without correspondence. This indicates that NRC may be seeking permission or approval for these areas and the triple-rinse process to be included in the discharge permit. An e-mail was sent to NRC on Friday, November 6, 2009 informing NRC that a "Modification" request with more details on the process under the discharge permit is needed in order for the Agencies to approve it. NRC has approved triple-rinse language included in its Artesia Refinery discharge permit that the Lovington Refinery should follow in order to get this process approved at the Lovington Refinery. If Navajo has been triple-rinsing drums without this approval in the discharge permit, you are in violation of the discharge permit and the Agencies require that you stop immediately until a "Modification" request can be reviewed by the Agencies. NRC may be confused in that what has been approved at one facility is good for the other

facility, but this is not the case. Each facility is under a separate discharge permit and are treated individually by the OCD. **NAVAJO RESPONSE: We will send a separate letter to request a "modification" of the permit to allow the triple rinse areas.**

Chemical Storage Area (Section 17ii)

The November 6, 2009 correspondence included a drawing 81-11-D dated 5/14/08 that depicts a 30 ft. x 60 ft. chemical storage pad, but the curb that separates areas to keep incompatible chemicals segregated from compatible chemicals on the storage pad cannot be discerned in the drawing. The OCD had been aware of the recently constructed pad to store chemicals, but OCD's requirement under this discharge permit was to construct a second pad to separate incompatible chemicals stored on the pad. This does not appear to have been completed; however, if NRC can show the separation on the existing chemical storage pad to the Agencies, this may be acceptable In fact, the drawing depicts drainage to one sump, which could be catastrophic in the event of an emergency where incompatible container fluids migrate to the only sump area resulting in an explosion and fire across the facility.... Please confirm in a written statement that the chemical storage pad is constructed properly will NOT allow incompatible chemicals to interact and result in an explosion or fire condition at the facility. **NAVAJO RESPONSE: The chemical storage pad has two sides with two separate sumps divided by a cement wall. I have attached a photo of the pad. (Chemical Pad 2.jpg)**

Sumps (Alternate Schedule) and adequate "Controls" (Section 11A)

The November 6, 2009 correspondence with table and aerial photos of sump locations. OCD had approved the decommissioning of the sumps requested for closure by the NRC with the determination that they did nothing for "Controls" section of the discharge permit at the facility. The table is lacking the date sumps were installed. A denotation for any sumps with secondary containment with leak detection is required in the table. **NAVAJO RESPONSE: The sump table has been updated and is attached. The sumps labeled "unknown" were in place when Navajo bought the facility in 1990, so they predate that. (Lovington Sumps.xls)**

Storm Water (Section 18):

As part of the approval of the sump decommissioning or "Controls" under the discharge permit, OCD requested that NRC conduct an evaluation of the adequacy of controls throughout the Lovington Refinery to assess and determine where additional controls could be added in high-risk release locations to prevent releases from impacting vast storm water or non-contact areas within the refinery property. In addition, in the October 22, 2009 Communique No 1 e-mail, the OCD indicated that while the "Controls" issue within the discharge permit may not be a violation at this time, there is a potential based on the type of release and lack of controls that this provision of the discharge permit may become a violation in the future? During the October 8, 2009 meeting, the OCD verbally displayed and discussed an example of a C-141 release that spanned approximately 1000 ft., which was later found to have been associated with releases from multiple valves that had inadvertently been left open along the pipeline. This was cited as a possible example of lack of controls that NRC should evaluate for the Lovington Refinery. Please provide a technical evaluation of "Controls" at the facility that may help to prevent major releases to storm water or non-contact areas from refinery activities. For example, high risk areas near process areas or areas with the most potential or threat for a major release. NRC may determine that additional sumps, process drains, etc. may be required to fulfill the "Controls" aspect of the discharge permit. Please note that a determination of adequate controls when there are inadequate controls may result in a violation of the permit and each release to the environment at the facility will be assessed for adequate controls. The OCD is aware of berms around tanks, which constitute controls for these bulk storage containers, but where releases occur into storm water or non-contact areas, these are of concern to the Agencies, up to and including adding pavement, curbs, etc. to control spills and releases. **NAVAJO RESPONSE: As Navajo has stated before, we are in full compliance with all Storm Water regulations. We have constructed a berm around the entire facility so that there is no run-on or run-off. We have no Storm Water discharge. I have attached the inspection report that Richard Powell with NMED wrote after his storm water inspection of our facility (Lovington Storm Water Inspection. PDF). There seems to be some confusion about what is and isn't storm water releases and what the Storm Water regulations cover. Having said that, Navajo is extremely concerned with protecting the groundwater at our Lovington Facility. We have been proactive in adding high and high-high level alarms on all tanks, and these are monitored 24 hours a day from the Lovington Refinery Control Room in addition to routine visual inspections of the tanks and local level monitoring by the plant operators and maintenance staff. Spills are dug up immediately and soil borings are done to determine extent of contamination and sample analysis conducted to ensure remediation effort is effective. We have added cement and curbing "controls" in areas that are susceptible to spills and I have attached copies of three separate Capital Budget Projects (2010 Lovington Concrete Work.doc, 2010 Lovington H-103 Concrete at Passes.doc, and 2010-Lovington Paving and Curbing.doc) scheduled to be completed in 2010 to further enhance controls already in place to show the effort Navajo has put in and continues to put in to protect groundwater.**

Above Ground Tanks Secondary Containment with Leak Detection Retrofit Schedule (Section 9)

The November 6, 2009 letter with attached table and alternate schedule for compliance is lacking the "Retrofit Date" column and date of December 31, 2013. Provide a brief summary of the retrofit specifications planned for this date. Include the standard 10-year API Tank Test schedule for each tank or is this the "Last Integrity Test Date" depicted in the table?. The "Last Integrity Test Date should indicate "pass/fail" and additional description of any corrective actions taken after tank failed. Please include a denotation for Praxair leak detection test date with pass/fail similar to the above sentence. Include denotation for all tanks with the "High Level Alarms" installed to facilitate future tracking of tanks with and without alarms. Finally, could or is tank gauging be part of the tank monitoring procedure at the refinery in order to detect potential pinhole leaks in tanks? If so, the frequency of gauging could be included in the table. **NAVAJO RESPONSE: The revised tank leak detection schedule is attached. (Copy of Lovington Tank Leak Detection Project.xls).**

Note that any new tanks must comply with Section 9 requirements and must be approved by the Agencies with engineering drawings, etc. under a modification request.

Closure Plan with Cost Estimate for Ground Water Monitoring:

The closure plan is due November 30, 2009. The OCD has sent guidance for elements of a ground water closure plan from 20.6.2 NMAC, OCD regulations, and a cost estimate for closure at another refinery to assist NRC with development of a closure plan with financial assurance estimate for post closure monitoring under the discharge permit. It is doubtful that the letter under development by the Agencies will be completed before the due date; consequently, NRC must make some assumptions based on elements of a closure plan, additional MWs, monitoring costs for 30 years, inflation, etc., that must be a legitimate estimate in order to satisfy this provision of the discharge permit.

Submitted Reports:

This "Environmental Status Report dated November 6, 2009 was apparently not yet complete or available at the time of the October 8, 2009 meeting. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

"Hydrocarbon Release Investigation April 29, 2009 – May 1, 2009" was submitted to address Sections 17(iv & vi) and 19 of the discharge permit. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

Please submit the remaining issues highlighted in yellow above from Communique No. 1 and re-submit the required information by COB on Friday, November 27, 2009, or date approved by the Agencies. Please contact me if you have questions. Thank you.

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(Pollution Prevention Guidance is under "Publications")

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New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

December 10, 2009

Mr. Darrell Moore
Environmental Manager for Water & Waste
Navajo Refining Company- Lovington Refinery
PO Box 159
Artesia, New Mexico 88211-0159

Re: Discharge Permit Post October 8, 2009 Meeting (GW-014)
Communiqué No. 2
Navajo Refining Company- Lovington Refinery
Lea County, New Mexico

Dear Mr. Moore:

The New Mexico Oil Conservation Division (OCD) and City of Lovington (City) or the "Agencies" met (meeting) with Navajo Refining Company (NRC) on Thursday, October 8, 2009 to discuss and communicate on the discharge permit and environmental status at the facility. The OCD had recently re-permitted the facility and included provisions to assess risks to public health from ground water contamination at the facility. At the conclusion of the October 8, 2009 meeting, the Agencies agreed to send a letter (letter) with additional requirements to assist NRC with action items that will help the Agencies to better understand contaminant hydrogeology and assist with an assessment of any public health risks or threats from the facility and to ensure protection of the City's Well Head Protection Area (WHPA) and/or drinking water supply.

This letter serves as "Communiqué No. 2" (letter addressing Discharge Permit Section 21(A) requirements and other related permit sections) developed pursuant to OCD "Communiqué No. 1" correspondence dated October 22, 2009 (see attachment). There were some permit violations identified in Communiqué No. 1 and this letter along with Communiqué No. 1 may help NRC to address most if not all of those violations and address other applicable discharge permit requirements.

The meeting was of particular interest to the Agencies in understanding contaminant hydrogeology beneath the facility in order to assess any public health threats and/or threats to the City's WHPA from documented contamination. The hydrogeology and piezometric surface beneath the facility appears to be more complex as several fresh water wells have been pumping at the facility and down gradient from it; consequently, any ground water contamination beneath or from the facility may have been or is currently being captured within a water table cone of depression(s) from a nearby pumping well(s). Consequently, the agencies recommend that

untreated water from these wells not be used for drinking water purposes until NRC and the Agencies obtain more information. The City is working to provide a WHPA Boundary Map, boring log information from fresh water wells, discharge rates and identification of pumping wells. The Agencies recommend that NRC provide similar fresh water well information from the facility to better understand the hydrogeology of the area and to include in future information provided to the Agencies and general public.

At the meeting, the Agencies received a copy of the NRC Lovington Refinery's "Report of June 2009 Semi-Annual Groundwater Monitoring" report (report) and Mr. David Boyer presented the information in the report. The report basically consisted of quarterly ground water monitoring data from MWs (including recently deepened wells) that was not available in April 2009 when the annual ground water monitoring report was due and submitted. The report did not address several of the provisions of the discharge permit (i.e., Section 21A). On November 6, 2009, the Agencies received responses to Communiqué No. 1 along with an "Environmental Status Report" (November 6, 2009) and "Hydrocarbon Releases Investigation" (environmental investigation to satisfy Section 17 of the discharge permit received on November 9, 2009). The agencies have considered this information in completion of this letter.

Please find below more specific environmental requirements from the Agencies to help NRC to comply with the terms and conditions of the OCD discharge permit. Please note that all environmental work, equipment, etc. must conform to American Society for Testing and Materials (ASTM), Environmental Protection Agency (EPA) sample and laboratory QA/QC methods, and/or OCD Data Quality Objectives (DQOs) or regulatory limits, i.e., chain-of-custody, samples collected and placed on ice, lab detection limits are below New Mexico regulatory limits, etc.

General Observations:

1) There appears to be an undefined Phase Separated Hydrocarbons (PSH) or an ongoing source(s) of contamination requiring remediation in the unsaturated zone in the vicinity of MW-1.
2) The owner/operator did not install MWs at 3 of the 5 spill/release locations with 15 foot screens across the water table down gradient of all releases where contaminated soils/sediments were never fully excavated and associated with "C-141" reporting (See Attachment 2 of discharge permit). The "Hydrocarbon Releases Report" documented some work that did not meet the permit requirements, and a couple of wells were installed, but it is unclear whether they are positioned down gradient from a possible source(s) of contamination at this time.
3) More MWs are recommended in areas of sparse well coverage and areas perceived to be positioned upgradient from fresh water wells to accurately monitor ground flow direction(s) and to locate any dissolved phase plume(s) beneath or emanating from the MW-1 (historical hot spot) and at other areas of concern at the facility.
4) The ground water flow direction at the south end of the facility and in the vicinity of MWs 5, 12 and 14 appears to be E-NE while ground water flow direction at the north end of the facility in the vicinity of MWs 1, 8 and 13 appears to be E-SE (Appendix C June

2009 water table elevation data). It is currently not known by OCD where fresh water wells are screened, which wells are pumping, and at what rate to assess the potential for influence from any pumping fresh water well proximal to MWs at the facility. Consequently, positioning sentinel MWs up gradient from pumping water supply wells in the WHPA becomes more difficult to predict.

5) The detection of BTEX in ground water at MW-11 may be coming from the refinery process area?
6) The detection of elevated Chlorides and Total Dissolved Solids (TDS) detected at WW-South may be from the OCD documented historical caliche pit where tank bottom waste was disposed SE of the flare stack as ground water flow appears to be E-SE at this location or from tanks near MW-14 as ground water flow direction appears to shift in a N-NW direction back toward this well location. However, more MW locations are recommended (see "Ground Water Flow Maps" attachment) to verify the above. NRC thinks the source is from the SW upgradient from this well location?
7) MW-2 appears to be positioned upgradient or side-gradient to the C-141 Release at Site 4 (see Hydrocarbon Release Investigation Report). Contamination detected at MWs 11 and 13 may be from this C-141 release, which is directly upgradient form these wells.
8) There are no MWs positioned down gradient from Site 5. Sample data from the 2009 investigation did not show contamination was present, but the investigation was shallow and the water table is at about 100 ft. bgl.

Additional MW Location Requirements:

Please see attached Ground Water Flow Maps with required MW locations from the Agencies.

Environmental Action Items:

1) At least 13 more 2 in. diameter or larger MWs (see "Ground Water Flow Maps" attachment) must be drilled to the water table (15 ft. screen settings) and tested for General Chemistry, TPH (418.1), BTEX (8015M), and chlorides (300.0) are recommended to confirm NRC's conclusions that there is or are no ground water plumes that threaten the WHPA or public safety from the facility. Monitoring mean sea-level static water levels and the parameters listed above over time should help to confirm NRC's preliminary observations after lowering the well screens into the water table. Fresh water wells (WW-North, WW-South, and WW-East) used by the refinery should continue to be monitored, since they may have altered or induced ground water flow into the pumping well (assuming these wells are screened within the same aquifer system).
2) A soil boring investigation with split-spoon core sampling is required within 250 ft. radius of MW-1 to define lithologic units and the horizontal and vertical extent of any PSHs in the unsaturated zone from surface down to the water table. Core sampling at 10 ft. increments from surface to the water table every ten feet with photo-ionization detectors (PID), field equipment, etc., and using Best Professional Judgment (BPJ-olfactory senses, soil staining, etc.) may be sufficient w/ proper field calibration, acceptable calibrant, and proper lamp to detect VOCs in PID readings should be properly

documented. The water table should also be assessed for free-product thickness and sampled if the PID shows detection of hydrocarbons.

3) Currently, the hydraulic conductivity (K) of the aquifer has not been determined and needs to be conservatively estimated or determined by slug testing appropriate wells. Specific capacity testing of fresh water wells may help, but the OCD needs to know where the fresh water wells are screened, etc. relative to the water table aquifer and MWs? Slug testing is a less intrusive process with less impact or stress on the aquifer than conducting a 3-day aquifer pump test (would provide more definitive aquifer characteristics). The ground water flow velocity may be estimated based on K and hydraulic gradient data to better assess contaminant migration on and off site.
4) The piezometric surface depicted from SWL data does not appear to coincide with the ground water flow direction maps submitted by NRC to date. Since there are pumping fresh water wells, the configuration of the piezometric surface may be highly variable and subject to one or more nearby cones of depression. An estimate of the cones of depression based on pump rates and Item 3 above should be submitted to better assess the potential for pumping wells to be remediating contamination at the facility. Figure 7 of the report indicates that a potential cone of depression is present on the water table possibly caused by a nearby pumping well(s). An assessment of which wells are pumping full-time and at what rate is needed to better understand contaminant transport. Also, an evaluation is required to assess which wells should be allowed to pump or operate. The use of untreated freshwater for drinking water purposes should not be allowed until more environmental information is submitted.

   Note: All depths to static water level, subsurface contamination should be converted to mean seal-level elevations for the construction of cross-sections to display contaminant hydrogeology.
5) Cones of depression are evident from the wide-range of hydraulic gradient (0.001 to 0.0047) values observed from the June 2009 water table elevation data provided by NRC. A cone of depression may also form in a water table aquifer from pumping wells in deeper seated aquifers where there is any hydrogeologic connection between aquifers.
6) NRC shall submit an investigation/remediation report that will address any risks to public health and the environment with conclusions and any recommendations based on the findings of the report within 6 months of the date of this letter.
7) From the Hydrocarbon Release Investigation Report, MW-2 appears to be positioned upgradient or side-gradient of Site 4. NRC indicates the following: this area is scheduled for excavation and reconstruction; sufficient boreholes will be installed to delineate the area; and upon completion of the delineation, a report will be filed with the OCD along with an appropriate remediation plan.

   A MW is recommended to be positioned just north of the recently plugged and abandoned "Chevron" Class II Wells, which is directly down gradient from this suspected release area. The Agencies request a work schedule for completing the above, since there does not appear to be equipment in the area that would hamper work in this area. Contamination at MWs 11 and 13 may also be from the "C-141" spill/release at Site 4, which is upgradient from these wells. A MW is recommended to be positioned

just north of the recently plugged and abandoned "Chevron" Class II Wells, which is directly down gradient from this suspected release area.

8) A map of the facility with an evaluation of controls to prevent releases to eligible storm water areas (see "WHPA" Item 2 below) of highest risk is requested. NRC did not present a diagram of controls, i.e., sumps, drains, etc., with an evaluation of high risk areas or facility controls that would prevent releases to eligible storm water areas within the refinery property. The Agencies require this documentation in order to assess adequate controls to address any releases to eligible storm water areas of the refinery which threaten fresh water supplies.
9) Upgrade the fresh water map to include transmission and utility lines and any other anthropogenic features that may affect contaminant migration at the facility.

Comments on Environmental Status Report:

1) NRC is recommending semi-annual monitoring of existing and new MWs with the next sampling event scheduled for December 2009. This is acceptable to the Agencies.
2) Slug testing or aquifer pump testing is required to estimate the hydraulic conductivity (K) in the fine sand aquifer. The ground water velocity may then be derived to assess the migration of any dissolved phase contaminants in the ground water.
3) The map displaying all fresh water supply wells, facility MWs, etc. to assess threats to wells was attached to the report; however, there were no oil and gas or utility pipelines depicted in the map. From the map and review of OCD 3-point ground water flow directions (see attached map with MW locations), one Municipal Well (MUN 04058 S26) and LWs 3, 5, 6 and 8 appear to be the most proximal down gradient City wells that may be threatened by ground water contamination.
4) From Appendix D, there may be drill pits at the facility from oil and gas wells that may be adding chlorides to the ground water. An explanation of the "Pond" south of MW-10 in previous maps is required with an explanation of the exact location, how it was utilized, time period used and closed. OCD field notes indicate that it was a caliche pit barrow source and served as a tank bottom waste pit.
5) Some new well logs do not indicate when the driller noticed hydrocarbon odors or best professional judgment remarks during the drilling process. Future drilling shall have field monitoring equipment to help indicate when contamination is noticed during drilling.
6) More detailed cross-sections transecting N-S, E-W, and at transects down gradient to any water supply wells, etc. are needed to help assess contaminant hydrogeology from the facility and down gradient toward water supply wells. The submitted cross-sections are too generic (no water table, well screen settings, water quality data, etc.) and do not include any of the fresh water wells used by the refinery (WWs- North, South and East) and City, but need to be in order to evaluate thickness of the aquifer(s), screen settings, contaminant hydrogeology, etc. The City is working to provide some water supply well information from the WHPA, and the NRC should also include it water well information to include in the cross-sections to prevent any gaps in fresh water information.
7) There are some exceedances in ground water of WQCC 20.6.2 NMAC (i.e., Chlorides, TDS, Fluoride, Manganese, Benzene and PAHs). In addition, in Section xiv of the

report, the presence of Methyl Ethyl Ketone (MEK) in MWs 1, 6 and 7 and RW-1 and some Acetone was detected in MW-6.

8) Excavation of contaminated soils is required at the Site 1 C-141 (see Hydrocarbon Release Investigation) as contamination was detected in 18 – 24 inch borings, but no excavation was performed. MW-14 appears to have been positioned up gradient from the investigation area; however, an existing MW appears to be positioned down gradient from this release site.

Comments on Hydrocarbon Release Investigation:

1) The background information for most of the "C-141" releases was not provided to the OCD and the volume of the releases is unknown. NRC needs to ensure that MWs are positioned down gradient from the "C-141" release areas in order to monitor for ground water impacts. There continues to be a discharge permit violation related to the "C-141" release areas until MWs are installed or MW locations are verified to be positioned down gradient from the release locations for monitoring purposes and to confirm ground water contamination is not migrating down gradient to fresh water wells.
2) While the report identifies the "C-141" release locations, the investigation work conducted did not follow the 2009 annual report criteria where NRC stated it was to delineate five historical spills. NRC was to drill within the historical release areas and collect soil samples at 10 ft. intervals (and where olfactory senses detect hydrocarbons, visual staining, etc.) down to the water table with a water sample collected at the water table. This phase of the investigation was supposed to have been completed by April 31, 2009, and was not provided during the October 8, 2009 meeting. The "Hydrocarbon Release Investigation" report was submitted on 11/6/2009.
3) In lieu of Item 2 above, NRC drilled boreholes at 3 areas within the refinery where spills or leaks of refinery related fluids were released. The boreholes were advanced to a minimum depth of 15 ft with the deepest borehole drilled to 45 ft. TPH, BTEX and Chlorides analyses were conducted; however, the water table is at about 100 ft. bgl. A pH sample was collected at the caustic release location that was negligible. MWs were supposed to be installed down gradient from the release locations where the volume of loss was unknown. This does not appear to have been completed; consequently, in addition to the recommended MW locations (see attached Ground Water Flow Maps), NRC must reassess the release locations at Sites 1, 4 and 5 to address Item 2 above.
4) MW-8 appears to be positioned down gradient from Site 2 and MWs 8 and 11 appear to be positioned down gradient from Site 3.

Comments on Well Head Protection Area (See "Surface Water" section below)**:**

1) A map to scale of fresh water wells should include transmission and utility lines. Fresh water well boring construction logs should be submitted with any cross-sections developed at the facility, which should display well construction features in addition to any relevant contaminant hydrogeology, water quality exceedences to assess contaminant hydrogeology and the potential for contamination to be present in fresh water wells.

2) Submit diagram with engineering evaluation of controls in areas eligible for coverage under the MSGP (i.e., vehicle and equipment storage, maintenance and refueling areas) and high risk spill locations where controls should be installed to prevent major releases from occurring and impacts to fresh ground water.

   OCD reviewed NRC's most recent e-mail communiqué with attachments dated November 25, 2009 regarding adequate controls and the storm water concerns raised in previous communiqués between NRC and OCD. In addition, the OCD is aware of the recent storm water inspection conducted by the New Mexico Environment Department (NMED) dated November 12, 2009. NMED indicated in the inspection report that "areas eligible for coverage under the Federal Multi-Sector Multi-Sector General Permit include: vehicle and equipment storage, maintenance and refueling areas." It should also be mentioned that the NMED Inspector was told by refinery personnel during the inspection that they "did not believe that there is no storm water runoff, contaminated or otherwise, from the refinery"; consequently, the NMED Inspector did not conduct a thorough review of the potential contributions from process areas to the storm water circuit on the date of this inspection, nor was possible impacts of refinery operations on drinking water quality assessed." The OCD maintains its concerns about contaminant releases to non-process areas within the bermed property with emphasis on high risk spill/release areas and the areas mentioned above. The Agencies appreciate NRC's efforts to address controls and storm water issues at its facilities.

Comments on Surface Water

Section 18. Storm Water: The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate chemical contact from non-contact storm water drainage areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified including any oil sheen in any eligible non-contact storm water run-off drainage area (see "Well Head Protection Area" Item 2 above).

Discharges of contaminants into non-contact eligible storm water areas and areas at risk for reoccurring releases to non-contact areas and pose the greatest threat to ground water at the facility are considered violations of the Federal storm water program. A map of the facility with locations where controls to prevent releases (see "Well Head Protection Area" Item 2 above) at locations of highest risk to ground water. NRC did not present a diagram of controls, i.e., sumps, drains, pavement areas, etc., with an evaluation or rationale for addressing high risk areas and facility controls throughout the facility; however, some attachments were submitted indicating construction work orders are in progress to emplace controls at the facility.

The concern about controls surfaced after NRC removed several sumps that it indicated served no purpose, which OCD approved, but this raised issues with "adequate controls" under the permit. The Agencies reviewed NRC's November 25, 2009 e-mail communiqué providing documentation on this matter and are hopeful that this issue can be resolved with minimal effort, i.e., a simple review and evaluation of facility site plan(s) or diagrams with locations that may be

of concern based on the above. NRC should provide of map of the locations where work will be performed with rationale to address concern(s).

As required under the discharge permit, the Agencies must receive ample notification of investigative/remediation activity at the facility in order to witness and collect or split environmental samples.

Please contact me at (505) 476-3490 or carlj.chavez@state.nm.us if you have questions. Thank you.

Sincerely,

Carl J. Chávez
Environmental Engineer

CJC/cjc

Attachments: Meeting Agenda 10/8/2009
OCD Communiqué No. 1 10/22/2009
Ground Water Flow Maps

xc: Michael Leighton, City of Lovington Manager
Daniel Sanchez, OCD Santa Fe
OCD District I Office, Hobbs

Chavez, Carl J, EMNRD

Subject:	Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit & Communication Meeting
Location:	OCD Conference Room 3rd Floor: Wendell Chino Bldg. 1220 South St. Francis Dr., Santa Fe 87505
Start:	Thu 10/8/2009 1:30 PM
End:	Thu 10/8/2009 5:00 PM
Recurrence:	(none)
Meeting Status:	Meeting organizer
Organizer:	Chavez, Carl J, EMNRD
Required Attendees:	VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD; mleighton@lovington-nm.org; Patrick B. McMahon; Moore, Darrell; Lackey, Johnny; Powell, Richard, NMENV
Optional Attendees:	Terry, Steve; kurtporter@valornet.com

Gentlemen:

Please find below the final agenda for next Thursday's Discharge Permit and Communication Meeting in Santa Fe.

AGENDA

Discharge Permit (GW-014)

Note: A projector w/ OCD Laptop Computer Microsoft Compatible (save power point presentation on USB drive in 1993-97 Format just in case). Computer will be website accessible, but only from an OCD computer plugged into the DSL drive in case you want to place and access your presentation online.

Main Basis for Meeting: Section 21. A. Environmental Status Report or Presentation (Due: 10/12/2009) Note: Presentation by refinery representative(s) on the contaminant hydrogeology issues in this section.

1:30 **Introductions**

1:40 **Section 9. Above Ground Tanks:** The owner/operator shall retrofit all existing tanks before discharge permit renewal or within a proposed schedule approved by the OCD within 3 months of permit issuance (April 12, 2009). The owner/operator shall submit a spreadsheet or table identifying all tanks with a work schedule to address this provision (Tank ID#, type of tank, new/used, volume, chemical stored, tank age, last integrity test date, planned retrofit date and/or construction date, etc.) to the OCD for approval..... A work schedule with a phased approach extending beyond the standard 5-year permit period may be approved by the OCD if submitted within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal within 30 days of receipt.

1:50 **Section 11. Below-Grade Tanks/Sumps and Pits/Ponds:**

A. **Below-Grade Tanks & Sumps:** The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule proposed in a spreadsheet or table approved by the OCD within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal within 30 days of receipt.

B. **Pits and Ponds:** The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule submitted to the OCD and approved within 3 months of permit issuance (April 12, 2009). A spreadsheet or table of all pits and ponds with schedule for completion shall be included in the submittal and OCD shall approve or deny this submittal within 30 days or receipt. The table(s) and work schedule(s) shall be considered approved if the OCD does not respond within 30 days of receipt.

2:00 **Section 13. Underground Process/Wastewater Lines:**

A. The owner/operator shall provide a comprehensive spreadsheet/table listing of all underground process/wastewater pipelines within 3 months of permit issuance (April 12, 2009) to establish the basis for compliance with this provision. Have MITs to date been successful?

2:10 **Section 14. Class V Wells:** Class V wells shall be permitted by the NMED if sanitary wastewater is injected into a leach field without processing, treatment or disposal within an OCD treatment system at the facility. Status?

2:20 **Section 16. Spill Reporting:** The owner/operator shall notify the City of Lovington immediately of any discharge, leak, spill or release that poses an imminent threat to the City's fresh water supply to allow the City to take corrective action(s) to prevent contamination from entering the freshwater gathering system. Status?

2:30 **Section 17. OCD Inspections:**

i. The owner/operator shall submit an updated site map(s) showing the current status of all recovery wells, monitor wells, domestic wells (City of Lovington water supply, irrigation wells, and pertinent features (i.e., new refinery units, remediation systems, new tanks, expansions, effluent pipelines(s), centralized chemical storage location, oil and gas transmission lines within and proximal to the property and ground water contamination, including storm water basins (detention ponds) if present) before June 30, 2009.

ii. The owner/operator shall construct a second impermeable pad area at a centralize chemical storage area, which will serve to separate incompatible chemicals by March 31, 2009. A drawing(s) shall be submitted that illustrates a new centralized chemical storage location in advance of construction activities.

iii. The owner/operator shall provide proof of permit application, and correspondence with the NMED GWQB for septic system(s) before June 30, 2009. The septic system(s) shall be installed by September 30, 2009. Class V wells that inject domestic waste that is not treated at the refinery must be permitted by the NMED (see Section 14).

iv. Have all spills or releases of chemicals been cleaned up? Will discuss C-141s later in Section 21A presentation.....

vi. The owner/operator shall install MWs with 15 foot screens across the water table down gradient of all releases where contaminated soils/sediments are not fully excavated and associated with C-141 reporting (See Attachment 2). Has this been done? Will discuss C-141s later in Section 21A presentation.....

vii. New MWs constructed and monitored (See Sections 16v. and 20) shall be installed within 3 months of permit issuance (April 12, 2009). Additional downgradient MWs are required at locations down gradient from suspected refinery point source areas (See Attachment 2 C-141 Forms) especially the 10/25/2007 pipeline release discovery) and upgradient from any City of Lovington drinking water supply well in order to safeguard the municipal water supply system. PSH shall be reassessed and PSH wells shall be installed within 6 months of permit issuance (July 12, 2009) where product thickness is at or greater than 0.5 ft.. Recovery wells may be required anywhere GW contamination is detected upgradient from a water supply well. The annual monitoring report shall contain a conclusions section with recommendations for any additional corrective actions including additional MW locations. Based on the contaminant hydrogeology from environmental sampling and in the annual report (See Section 20). Has the above been done? Will discuss C-141s later in Section 21A presentation.....

viii. Major releases including fires, explosions, etc. Have any occurred?

x. The owner/operator shall maintain all refinery records including this discharge permit at the facility and readily available during inspections, site activities, etc. All records shall be made available to OCD inspectors upon request (See Section 21C).

3:00 **Section 18. Storm Water:** The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate chemical contact from non-contact storm water drainage areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified including any oil sheen in any non-contact storm water run-off drainage area. Have any releases occurred of this type since the permit was issued? NMED is planning to conduct a storm water inspection this year and will evaluate proper controls and possibly the recent request by the refinery to remove sumps (controls) from the facility. Refinery supposed to present a diagrams of sumps with any controls that exist to address adequate controls for releases to non-contact areas of the refinery property....

3:15 TEN MINUTE BREAK********BREAK**********BREAK**********BREAK**********

3:25 **Section 20. Surface Water/ Ground Water/ Vadose Zone Monitoring/Remediation/Abatement:**

A. **GW & Treatment System Montoring:** The owner/operator shall sample, analyze and report GW contamination to the City of Lovington and OCD in accordance with applicable federal, state, and local laws or ordinances. Were the MWs listed in Table 20A sampled and analyzed? Any PSHs? Quick observations or defer to presentation on Section 21A later.....

B. **GW & Treatment System Annual Monitoring Event:** Annual report shall be submitted to the OCD by April 15th of each year. Submittal on 4/15/09, but letter indicated MWs were still in process of being deepened. A status report is due on 10/12/2009 and will make available by then. Will this report or presentation on 21A later address the items in 20B? Defer to presentation on Section 21A presentation later.....

3:30 **Section 22. Annual Summary Report:** This report is due by April 15th of each year? Did the operator address the report contents of this section in its April 15, 2009 submittal? OCD is thinking the presentation today and the Environmental Status Report contains all of the information requested in the discharge permit related to the GW & Treatment System Annual Monitoring Report (Section 20B) Annual Summary Report (Section 22), since there were minimum requirements for diagrams, contaminant hydrogeologic information, etc. required for the Environmental Status Report and information was not available at the time the Operator submitted the Annual Report attempting to address annual report items on 4/15/2009? Hopefully the Environmental Status Report and presentation today address the concerns of the permit and the agencies will need to evaluate the submittal to see if we are indeed now up to date on annual reporting and the objective of the environmental status report and presentation today.... The Environmental Status Report and presentation was not due until 10/12/09.....

F. Summary of discovery of any new vadose zone and/or GW contamination or threat to the City of Lovington Well Head Protection Area. This should include recommendations with a schedule for any further investigation, monitoring and remediation.

G. Summary and copies of all City of Lovington and OCD activity, i.e., meetings (this meeting and future ones....), inspections, etc. Note OCD is currently under travel restrictions due to budget issues, but the City can conduct inspections under this permit at any time, and if so, the OCD would like to be copied on inspections, meetings, communiqués between the City and Operator in order for communications sake. I'm sure operator likes to be addressed in a single correspondence from the agencies rather than the agencies sending communiqués separately and if the OCD does not know what the City is up to and vise versa, a communication problem occurs, confusion, and we head down different paths..... Agreement on this? I think of us as a team communicating with one another in order to achieve our objectives..... The operator benefits by a clean run operation without spills, releases, etc. that cost a lot of time and money to address when we can help prevent pollution and conserve resources.....

3:45 **Section 24. Closure & Financial Assurance (20.6.2.3107A(11) NMAC):** The owner/operator shall submit a closure plan and financial assurance cost estimate for post cleanup monitoring by September 30, 2009. Operator recently requested an extension until November 30, 2009 to submit a closure plan with a total cost estimate that the OCD evaluate to determine a bond or financial assurance amount requirement from the operator. Today's presentation will assist the operator and environmental consultants with the total cost estimate. Discussion.....

4:00 **21. Additional Site Specific Conditions: PRESENTATION UPDATE ON CONTAMINANT HYDROGEOLOGY- Refinery Rep(s).**

A. **Environmental Status Report:** Presentation by refinery representatives at the end of discharge permit item discussion later.....

B. **New Full-Time Automated Free-Product Recovery System:** PSH Recovery Wells were to be installed within 6 months of permit issuance (July 12, 2009) if product thickness is greater than 0.5 ft.

C. **Records:** The owner/operator shall store all discharge permit related records and documents at the refinery and make them available to the agencies (City of Lovington and OCD) upon request. Has this been done? I could not access records during my inspections in the past.....

4:45 **City of Lovington Discussion of any concerns, etc.**

4:50 **Refinery issues, concerns, etc.**

5:00 **Miscellaneous Issues**

The Agencies involved with this facility are:

City of Lovington Contacts:

Michael Leighton (City Manager)
City of Lovington
(505) 396-2884
mleighton@lovington-nm.org

Patrick B. McMahon
HEIDEL, SAMBERSON, NEWELL, COX & McMAHON
311 North First Street
Lovington, New Mexico 88260
Office: (575) 396-5303
Facsimile: (575) 396-5305
hsncpbm@leaco.net

Oil Conservation Division:

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
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
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, October 22, 2009 8:24 AM
To: 'Moore, Darrell'; Lackey, Johnny
Cc: mleighton@lovington-nm.org; 'hsncpbm@leaco.net'; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit*** Post October 8, 2009 Meeting Minutes with Action Items ***

Gentlemen:

Re: October 8, 2009 Discharge Permit Meeting in Santa Fe

At the conclusion of the meeting, the OCD indicated that it would send out two communiqués: 1) documentation of post meeting events and/or action items from the meeting; and 2) a letter addressing the Section 21(A) requirement(s) and related discharge permit sections from the meeting in consideration of any applicable and related documents submitted after the meeting to consider. The Permittee (Navajo Refining Company) since pay special attention to the "***Permit Violation***" designations listed below, which serves as an indicator of the Permittees ability to comply with the OCD Discharge Permit. In addition, red text outlines dates for submittals where the deadline(s) was missed and/or a brief summary of the concern and a path forward for resolution between the agencies and the permittee.

Please consider this e-mail message to be the first communiqué and the letter on the Environmental Status Report from the agencies will soon follow.

This e-mail communiqué is to document the meeting events and post meeting action items (see agencies comments, recommendations and/or requirements in red text below) that the permittee and the agencies (City of Lovington and OCD) need to move forward on.

Attendees:

Navajo Refining Company: Mr. Johnny Lackey, Mr. Darrell Moore, Mr. Steve Terry, and Mr. David Boyer (Safety & Environmental Solutions, Inc.)
City of Lovington: Mr. Michael Leighton (City Manager), Mr. Pat McMahon (City Attorney), Mr. Kurt Porter (WWTP Super Intendent), and Mr. Wyatt Duncan (Inspector)
OCD: Mr. Daniel Sanchez (Compliance & Enforcement Manager), Mr. Glenn von Gonten (Acting Environmental Bureau Chief), and Mr. Carl Chavez (Environmental Bureau Environmental Engineer)

1:30 **Introductions- Welcome**

1:40 **21. Additional Site Specific Conditions: REPORT/PRESENTATION UPDATE ON CONTAMINANT HYDROGEOLOGY- David Boyer and Refinery Representatives.**

A. **Environmental Status Report:** Presentation by refinery representatives at the end of discharge permit item. The permittee distributed a report entitled, "Report of June 2009 Semi-Annual Groundwater Monitoring" (Report) dated October 8, 2009 to address the Section 21(A) discharge permit requirement(s). Mr. David Boyer (Safety & Environmental Solutions, Inc.) discussed the report with the assistance of refinery personnel at the meeting. ***Permit Violation.***

The permittee failed to address the minimum requirements specified in the discharge permit for the report or presentation. The agencies will send a letter on this and other applicable sections of the discharge permit with a submittal date to satisfy the report and/or presentation requirement under the discharge permit. The agencies response during the meeting was that the report and presentation fell short of what the permit had requested, but a follow-up letter should help to clarify what is needed moving forward.

B. **New Full-Time Automated Free-Product Recovery System:** PSH Recovery Wells were to be installed within 6 months of permit issuance (July 12, 2009) if product thickness is greater than 0.5 ft. *Not completed because no PSHs were present or detected after deepening MWs. Agencies suspect that there may be a*

plume(s) present, but because monitoring stopped after the water table dropped, and new screens are positioned at the water table, the presence and or lack thereof is presently not known.

C. **Records:** The owner/operator shall store all discharge permit related records and documents at the refinery and make them available to the agencies (City of Lovington and OCD) upon request. Has this been done? I could not access records during my inspections in the past..... *The permittee confirmed that all Lovington Refinery records had been moved from the Artesia Refinery to the Lovington Refinery. Johnny Lackey asked if electronic documents could be printed to satisfy the records requests from the agencies, and the agencies were ok with that too as long as we receive the information requested in a timely manner.*

1:40 **Section 9. Above Ground Tanks:** The owner/operator shall retrofit all existing tanks before discharge permit renewal or within a proposed schedule approved by the OCD within 3 months of permit issuance (April 12, 2009). The owner/operator shall submit a spreadsheet or table identifying all tanks with a work schedule to address this provision (Tank ID#, type of tank, new/used, volume, chemical stored, tank age, last integrity test date, planned retrofit date and/or construction date, etc.) to the OCD for approval..... A work schedule with a phased approach extending beyond the standard 5-year permit period may be approved by the OCD if submitted within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal within 30 days of receipt. ***Permit Violation.*** *Provide alternative work schedule to OCD before COB on October 30, 2009 to satisfy this requirement.*

The permittee claimed that the alternative work schedule approach was submitted with the Artesia Refinery (GW-028) submittal and it did not send it to the agency on or before April 12, 2009. The permittee indicated that it had installed high level alarms to also address this issue.

OCD requested that the permittee resend the table with the necessary details for agency review and determination of approval or denial. ***Please submit this to the agencies within the next two weeks or by November 3, 2009.*** *Any non-submittal shall default to the April 12, 2009 date, which requires the permittee to retrofit all above ground tanks (exception tanks containing inert contents) by the permit expiration date.*

1:50 **Section 11. Below-Grade Tanks/Sumps and Pits/Ponds:**

Below-Grade Tanks & Sumps: The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule proposed in a spreadsheet or table approved by the OCD within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal within 30 days of receipt. ***Permit Violation.*** *Provide alternative work schedule to OCD before COB on October 30, 2009 to satisfy this requirement.*

The permittee indicated that it did not have any below-grade tanks so it did not send it to the agencies on or before April 12, 2009. Agencies indicated that there are sumps and requested that the permittee resend the table with the necessary details for agencies review and determination of approval or denial. ***Please submit this to the agencies within the next two weeks or by November 3, 2009.*** *Any non-submittal shall default to the April 12, 2009 date, which requires the permittee to retrofit by the permit expiration date.*

A. **Pits and Ponds:** The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule submitted to the OCD and approved within 3 months of permit issuance (April 12, 2009). A spreadsheet or table of all pits and ponds with schedule for completion shall be included in the submittal and OCD shall approve or deny this submittal within 30 days or receipt. The table(s) and work schedule(s) shall be considered approved if the OCD does not respond within 30 days of receipt.

The permittee indicated that it did not have any pits or ponds so it did not send it to the agencies on or before April 12, 2009. Consequently, no submittal is expected for pits or ponds at this time. The agencies referred to a historical map with a diagram including a pond at the facility, but the refinery indicated that there was never any pond at the facility. Therefore, no submittal is required to address the retrofitting of pits or ponds at the facility.

2:00 **Section 13. Underground Process/Wastewater Lines:**

A. The owner/operator shall provide a comprehensive spreadsheet/table listing of all underground process/wastewater pipelines within 3 months of permit issuance (April 12, 2009) to establish the basis for compliance with this provision. Have MITs to date been successful?

Satisfactory.

2:10 **Section 14. Class V Wells:** Class V wells shall be permitted by the NMED if sanitary wastewater is injected into a leach field without processing, treatment or disposal within an OCD treatment system at the facility. Status?

Sanitary sewer project permitted through NMED and is almost complete. Ok.

2:20 **Section 16. Spill Reporting:** The owner/operator shall notify the City of Lovington immediately of any discharge, leak, spill or release that poses an imminent threat to the City's fresh water supply to allow the City to take corrective action(s) to prevent contamination from entering the freshwater gathering system. Status?

Satisfactory. Permittee is aware of this requirement and will actively remove contaminated soils related to spills/releases in addition to removing fluids at surface at the facility as part of its corrective action response. Notification will occur when this section applies. Ok.

2:30 **Section 17. OCD Inspections:**

i. The owner/operator shall submit an updated site map(s) showing the current status of all recovery wells, monitor wells, domestic wells (City of Lovington water supply, irrigation wells, and pertinent features (i.e., new refinery units, remediation systems, new tanks, expansions, effluent pipelines(s), centralized chemical storage location, oil and gas transmission lines within and proximal to the property and ground water contamination, including storm water basins (detention ponds) if present before June 30, 2009. ***Permit Violation.*** *Provide map displaying all wells including domestic wells (City of Lovington water supply wells, irrigation wells, and pertinent features, etc.) to agencies before COB on November 6, 2009 to satisfy this requirement.*

ii. The owner/operator shall construct a second impermeable pad area at a centralize chemical storage area, which will serve to separate incompatible chemicals by March 31, 2009. A drawing(s) shall be submitted that illustrates a new centralized chemical storage location in advance of construction activities. *Completed, but OCD does not recall receiving the diagram fro the second impermeable pad? Please submit to agencies before COB on November 6, 2009.*

iii. The owner/operator shall provide proof of permit application, and correspondence with the NMED GWQB for septic system(s) before June 30, 2009. The septic system(s) shall be installed by September 30, 2009. Class V wells that inject domestic waste that is not treated at the refinery must be permitted by the NMED (see Section 14). *Satisfactorily addressed in Section 16 above.*

iv. Have all spills or releases of chemicals been cleaned up? Will discuss C-141s later in Section 21A presentation.....*C-141s were not attached to the report addressing Section 21A, nor discussed by David Boyer in his Section 21A presentation. The permittee later submitted C-141 final reports (which it indicated had already been sent to the OCD) to the agencies. The agencies are currently reviewing the C-141s as part of its overall review of the Section 21A Report and will send a letter addressing the environmental status at the facility soon. The agencies will likely require the C-141s be included in the Section 21A Report.*

vi. The owner/operator shall install MWs with 15 foot screens across the water table down gradient of all releases where contaminated soils/sediments are not fully excavated and associated with C-141 reporting (See Attachment 2 of discharge permit). Has this been done? Will discuss C-141s later in Section 21A presentation..... ***Permit Violation***. *No MWs were installed downgradient from C-141 release locations to satisfy this permit condition. The agencies will be responding soon in correspondence related to the Section 21A requirements. Permittee did not install MWs downgradient from C-141 spill/release locations because they did not detect free product in wells after repositioning well screens. The agencies did not agree with this and is still very concerned that dissolved phase contaminants may be moving downgradient toward the City of Lovington Well Field.*

vii. New MWs constructed and monitored (See Sections 16v. and 20) shall be installed within 3 months of permit issuance (April 12, 2009). Additional downgradient MWs are required at locations down gradient from suspected refinery point source areas (See Attachment 2 C-141 Forms) especially the 10/25/2007 pipeline release discovery) and upgradient from any City of Lovington drinking water supply well in order to safeguard the municipal water supply system. PSH shall be reassessed and PSH wells shall be installed within 6 months of permit issuance (July 12, 2009) where product thickness is at or greater than 0.5 ft.. Recovery wells may be required anywhere GW contamination is detected upgradient from a water supply well. The annual monitoring report shall contain a conclusions section with recommendations for any additional corrective actions including additional MW locations. Based on the contaminant hydrogeology from environmental sampling and in the annual report (See Section 20). Has the above been done? Will discuss C-141s later in Section 21A presentation..... ***Permit Violation***. *No MWs were installed downgradient from C-141 release locations to satisfy this permit condition. The agencies will be responding soon in*

correspondence related to the Section 21A requirements. Permittee did not install MWs downgradient from C-141 spill/release locations because they did not detect free product in wells after repositioning well screens. The agencies did not agree with this and is still very concerned that dissolved phase contaminants may be moving downgradient toward the City of Lovington Well Field.

viii. Major releases including fires, explosions, etc. Have any occurred? *Satisfactory. Submitted one C-141 associated with fire at the facility and the fire was quickly put out and corrective actions were taken to correct the cause of the fire. Agencies discussed why reporting fires on C-141s improves overall public and worker safety at the facility.*

x. The owner/operator shall maintain all refinery records including this discharge permit at the facility and readily available during inspections, site activities, etc. All records shall be made available to OCD inspectors upon request (See Section 21C). *Permittee indicated that all facility records are at physically within the Lovington Refinery Facility and records will be made available upon request to the agencies for inspections, etc.*

3:00 **Section 18. Storm Water:** The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate chemical contact from non-contact storm water drainage areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified including any oil sheen in any non-contact storm water run-off drainage area. Have any releases occurred of this type since the permit was issued? NMED is planning to conduct a storm water inspection this year and will evaluate proper controls and possibly the recent request by the refinery to remove sumps (controls) from the facility. Refinery supposed to present a diagrams of sumps with any controls that exist to address adequate controls for releases to non-contact areas of the refinery property....

While not declared a violation, this could potentially be a future violation to the discharge permit if inadequate controls, i.e., drains, sumps, secondary containment....) around areas subject to major releases are not adequately addressed by the permittee. The permittee did not present a diagram of sumps with an evaluation of existing controls to address Section 18 controls, which was included on the agenda and had been verbally discussed with the permittee on the phone. ***Please submit the requested diagram with engineering evaluation of controls at the facility by COB November 6, 2009 with any recommended locations for controls based on the removal of sumps at the facility and an engineering evaluation of adequate controls to prevent or minimize releases into storm water areas at high risk (areas with the potential for major release) at the facility. The permittee should also assess drainage near City of Lovington water supply wells located on the facility in the evaluation, since the facility resides within the City's Well Head Protection Area.***

Agencies discussed the concept of spills/releases in storm water areas at the facility within the bermed area and the importance of controls to minimize impacts and storm water violations. The NMED inspection scheduled for October 7, 2009 was not completed, but may be completed before the end of the year according to Mr. Richard Powell (NMED- SWQB).

3:15 **TEN MINUTE BREAK**********BREAK**********BREAK**********BREAK**********

3:25 **Section 20. Surface Water/ Ground Water/ Vadose Zone Monitoring/Remediation/Abatement:**

A. **GW & Treatment System Monitoring:** The owner/operator shall sample, analyze and report GW contamination to the City of Lovington and OCD in accordance with applicable federal, state, and local laws or ordinances. Were the MWs listed in Table 20A sampled and analyzed? *Yes.* Any PSHs? *No PSHs were detected in wells where screens were positioned at the water table.* Quick observations or defer to presentation on Section 21A later..... *Permittee indicated that the soil vapor extraction (SVE) remediation system was shut-off after 3 years of operations as the PSH present at the facility was remediated. Looking back at records indicate that the SVE system was shut-off prematurely, since PSHs were still present several years after the remedial system was shut-down. The agencies are currently reviewing the Section 21A report, etc. and will be responding soon. David Boyer had indicated during auger drilling at the former hot spot, the drill mud became saturated with hydrocarbons (black oil at 5 ft. below ground level (bgl) and as deep as 20 ft. bgl with heavy oil), but the static water level is at about 105 ft. bgl. Mr. Boyer indicated that no core samples were taken to characterize the condition of sediments during the work. There appears to be source of contamination from 5 to 20 ft. bgl near the source and since the auger drilling method was used, any PSH zones encountered in the borehole down to the water table may not have been detected during the investigation. The agencies think that PSH is hung up in sediment above the water table and that screens at the water table are not detecting contamination due to the drop in the water table elevation. Consequently, contaminant hydrogeologic information is incomplete and more work will be forthcoming in agency communiqué no. 2.*

B. **GW & Treatment System Annual Monitoring Event:** Annual report shall be submitted to the OCD by April 15th of each year. Submittal on 4/15/09, but letter indicated MWs were still in process of being deepened. A status report is due on 10/12/2009 and water quality information will be available by then. Will this report or presentation on 21A later address the items in 20B? Defer to presentation on Section 21A presentation later..... *Report ("Report of June 2009 Semi-Annual Groundwater Monitoring" October 8, 2009 presented by David Boyer did include water quality information after the well screens were readjusted appears to be submitted to follow-up from the submitted annual report , but the report seemed to be used by David Boyer to address Section 21A, which it did not fully address.*

3:30 **Section 22. Annual Summary Report:** This report is due by April 15th of each year? Did the operator address the report contents of this section in its April 15, 2009 submittal? *Yes, an annual report was submitted that indicated sampling was in progress from work conducted by the permittee and presented water quality results in the "Report of June 2009 Semi-Annual Groundwater Monitoring" (October 8, 2009) . The agencies will address this section in future correspondence on the environmental status of the facility.* OCD is thinking the presentation today and the Environmental Status Report contains all of the information requested in the discharge permit related to the GW & Treatment System Annual Monitoring Report (Section 20B) Annual Summary Report (Section 22), since there were minimum requirements for diagrams, contaminant hydrogeologic information, etc. required for the Environmental Status Report and information was not available at the time the Operator submitted the Annual Report attempting to address annual report items on 4/15/2009? Hopefully the Environmental Status Report and presentation today address the concerns of the permit and the agencies will need to evaluate the submittal to see if we are indeed now up to date on annual reporting and the objective of the environmental status report and presentation today.... The Environmental Status Report and presentation was not due until 10/12/09..... *The permittee submitted an environmental report already mentioned above.*

F. Summary of discovery of any new vadose zone and/or GW contamination or threat to the City of Lovington Well Head Protection Area. This should include recommendations with a schedule for any further investigation, monitoring and remediation. *The presentation by David Boyer indicted from 5 to about 20 ft. below ground level auger mud became saturated with hydrocarbons. Since core samples to characterize the depth and nature of the hydrocarbons down to the water table, there may be a zone(s) where hydrocarbons are present above the noticeable drop in water table elevation throughout the years. The agencies are working to assist the permittee with contaminant hydrogeology at the facility to characterize contaminant hydrogeology and assess any risks to public health.*

G. Summary and copies of all City of Lovington and OCD activity, i.e., meetings (this meeting and future ones....), inspections, etc. Note OCD is currently under travel restrictions due to budget issues, but the City can conduct inspections under this permit at any time, and if so, the OCD would like to be copied on inspections, meetings, communiqués between the City and Operator in order for communications sake. I'm sure operator likes to be addressed in a single correspondence from the agencies rather than the agencies sending communiqués separately and if the OCD does not know what the City is up to and vise versa, a communication problem occurs, confusion, and we head down different paths..... Agreement on this? I think of us as a team communicating with one another in order to achieve our objectives..... The operator benefits by a clean run operation without spills, releases, etc. that cost a lot of time and money to address when we can help prevent pollution and conserve resources.....

3:45 **Section 24. Closure & Financial Assurance (20.6.2.3107A(11) NMAC):** The owner/operator shall submit a closure plan and financial assurance cost estimate for post cleanup monitoring by September 30, 2009. Operator recently requested an extension until November 30, 2009 to submit a closure plan with a total cost estimate that the OCD evaluate to determine a bond or financial assurance amount requirement from the operator. Today's presentation will assist the operator and environmental consultants with the total cost estimate. Discussion.....

4:00 **21. Additional Site Specific Conditions: PRESENTATION UPDATE ON CONTAMINANT HYDROGEOLOGY-Refinery Representatives**

D. **Environmental Status Report:** Presentation by refinery representatives at the end of discharge permit item discussion later.....

E. **New Full-Time Automated Free-Product Recovery System:** PSH Recovery Wells were to be installed within 6 months of permit issuance (July 12, 2009) if product thickness is greater than 0.5 ft. David Boyer's presentation and report indicated free product was not present in wells with deepened screens and other wells that were sampled.

F. **Records:** The owner/operator shall store all discharge permit related records and documents at the refinery and make them available to the agencies (City of Lovington and OCD) upon request. Has this been done? I could not access records during my inspections in the past..... *Permittee indicated that has been completed. Ok.*

4:45 **City of Lovington Discussion of any concerns, etc.**

The City needs at least 72 hours advanced notifications to be on-site to witness discharge permit related activities.

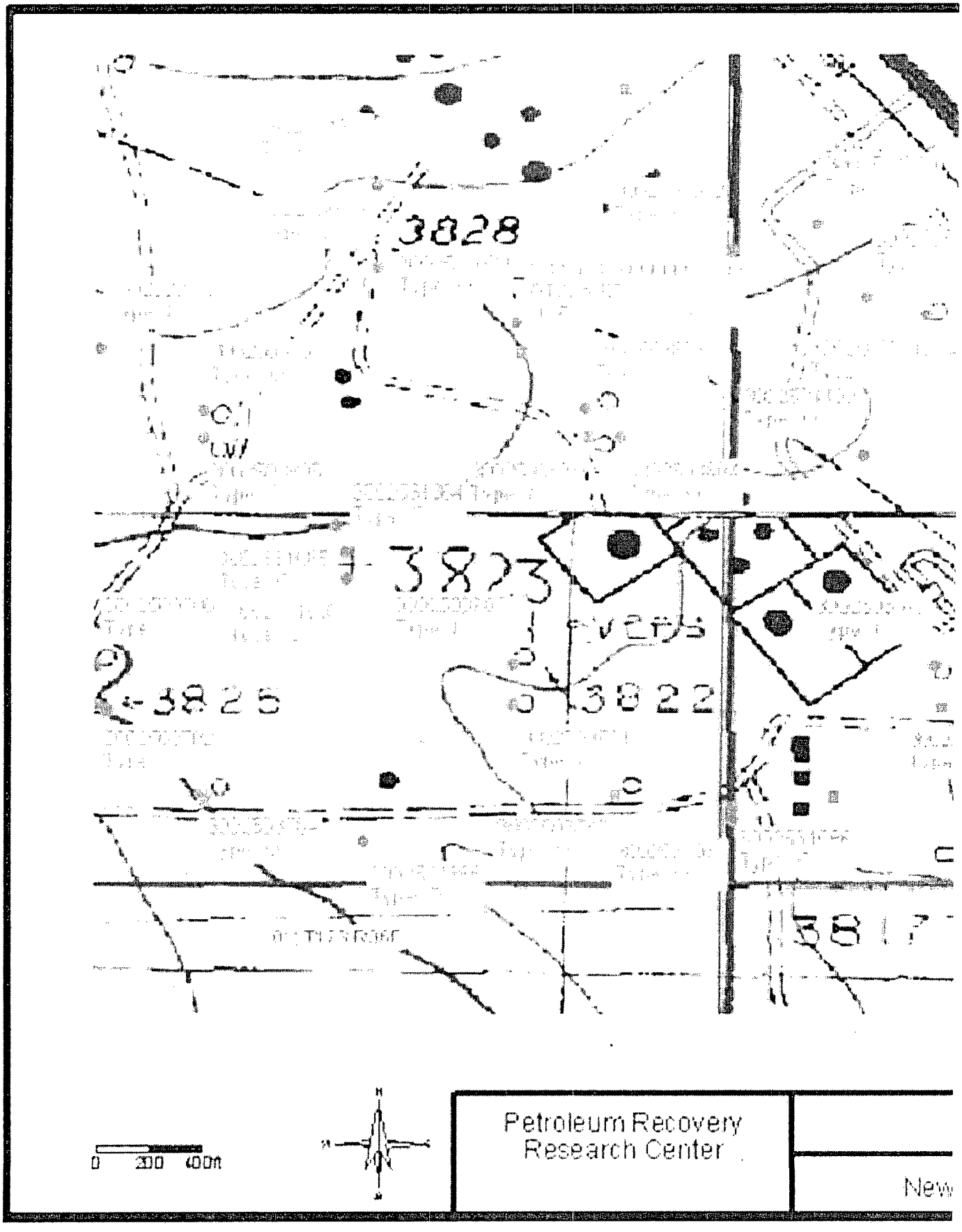
The City is the OCD's partner (agencies) in administering the OCD Discharge Permit and should be regarded as an agent of the OCD with the ability to conduct inspections (announced or unannounced) at this refinery.

The agencies also requested that the permittee not proceed with certain discharge permit applicable activities identified during the meeting until the agencies could issue the first communiqué, because the agencies are working to communicate together in one correspondence to convey its requirements to the permittee for response. In addition, the agencies should both be copied by the permittee on all refinery activities under the discharge permit and correspondences to ensure a uniformed approach to administering the discharge permit.

City may send letters to oil and gas operators in their WHPA to alert them of their goals and vision to protect the City's drinking water. The City hopes that oil and gas operators will respond by conducting mechanical integrity testing of the pipeline, assess wells for corrosion and work to ensure the WHPA is protected from oil and gas activities. The permittee will work on the refinery end to be responsive to any environmental issues from its facility and work with the City to protect the WHPA.

4:50 **Refinery issues, concerns, etc.**

Based on the additional work it completed, they don't think there is contamination in the ground water at past levels. For example, free-product that was once present at MW-1 is no longer there. Thinks chlorides at MW-13 may be associated with recently plugged and abandoned (~4 months ago) Chevron Class II SWD Wells on refinery property (see map w/ oil & gas wells (API Nos. provided below). The permittee wanted to know the API# in order to go to OCD Online and query for any violations or environmental MIT problems associated with suspected wells mentioned above because they were recently plugged and abandoned. OCD provides the maps below to assist the permittee with further investigation of oil and gas wells in the vicinity of the refinery.


3828
3823
3825
3822
0 200 400m
Petroleum Recovery
Research Center


GW-14
1977 ft
Image © 2009 DigitalGlobe
© 2009 Google
© 2009 Europa Technologies

- 5:00 **Miscellaneous Issues**

The agencies are concerned that there is not enough known about the contaminant hydrogeology beneath the facility to determine if there is a dissolved phase plume(s) heading downgradient toward their fresh water well field and within their Well Head Protection Area. The agencies are working on the Section 21A correspondence to the permittee to assist it with further investigation and monitoring of ground water from ground water contamination at the facility.

Please contact me if you have questions or need further assistance. Thanks in advance for your cooperation in resolution of the above matters.

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
(Pollution Prevention Guidance is under "Publications")

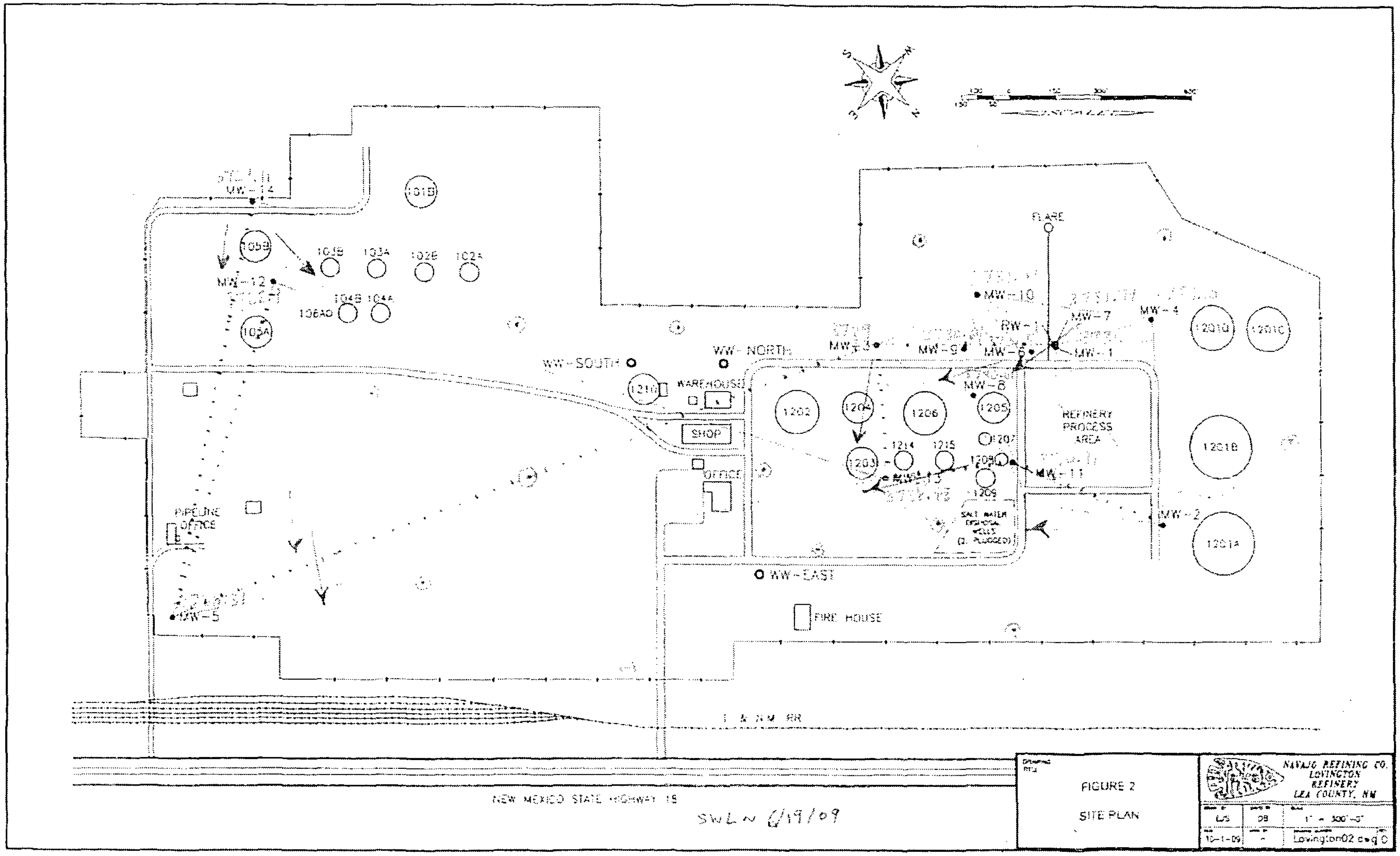


FIGURE 2

SITE PLAN

NAVAJO REFINING CO.
LOVINGTON REFINERY
LEA COUNTY, NM

LJS	09	1" = 300'-0"
10-1-09	-	Lovington02.dwg 0

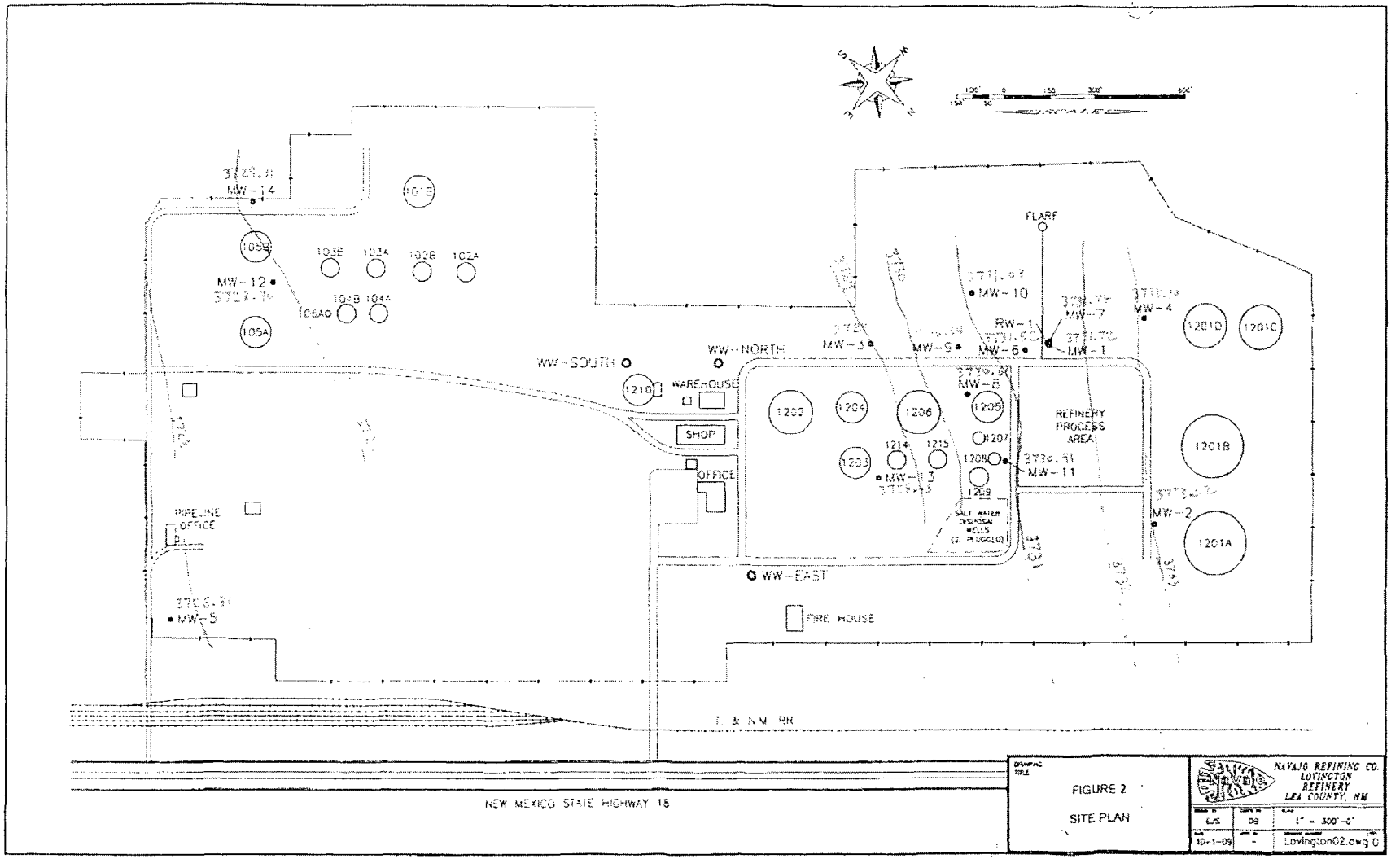


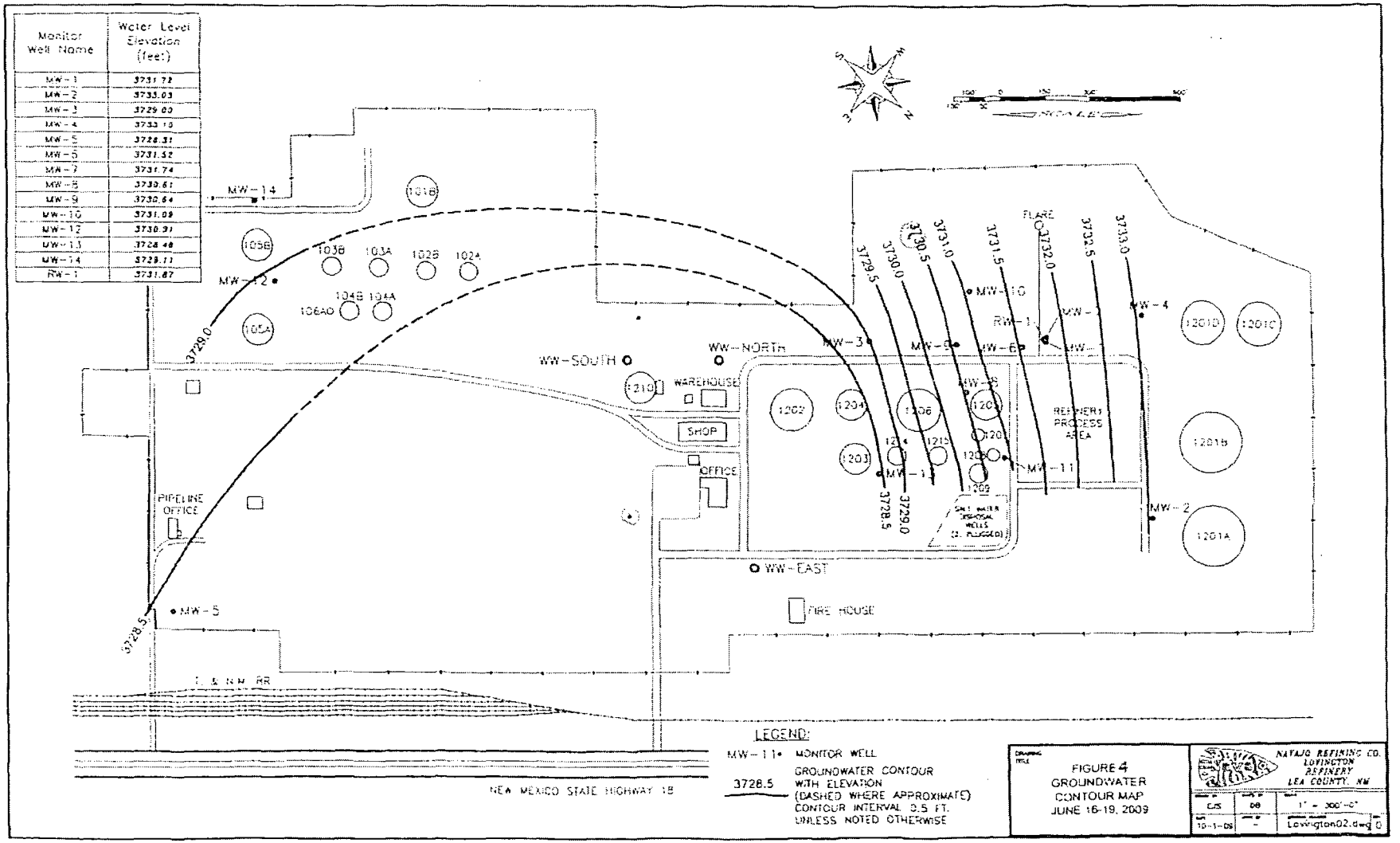
FIGURE 2

SITE PLAN

NAVAJO REFINING CO.
LOVINGTON
REFINERY
LEA COUNTY, NM

CAS	DB	1" = 300'-0"
10-1-09	-	Lovington02.dwg 0

Monitor Well Name	Water Level Elevation (feet)
MW-1	3731.72
MW-2	3733.03
MW-3	3729.60
MW-4	3733.10
MW-5	3728.31
MW-6	3731.52
MW-7	3731.74
MW-8	3730.61
MW-9	3730.64
MW-10	3731.09
MW-12	3730.91
MW-13	3728.48
MW-14	3728.11
RW-1	3731.87



Chavez, Carl J, EMNRD

From: Moore, Darrell [Darrell.Moore@hollycorp.com]
Sent: Wednesday, November 25, 2009 9:37 AM
To: Chavez, Carl J, EMNRD; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; kurtporter@valornet.com; VonGonten, Glenn, EMNRD; Hill, Larry, EMNRD
Subject: RE: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)
Attachments: Chemical Pad 2.JPG; Lovington Sumps.xls; Lovington Storm Water Inspection.pdf; 2010 Lovington Concrete Work.doc; 2010 Lovington H-103 Concrete at Passes.doc; 2010-Lovington Paving and Curbing.doc; Copy of Lovington Tank Leak Detection Project.xls

Carl

Here are our responses to your email of November 12, 2009. The City of Lovington has been Cc ed.

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, November 12, 2009 8:14 AM
To: Moore, Darrell; Lackey, Johnny
Cc: Michael Leighton; hsncpbm@leaco.net; kurtporter@valornet.com; VonGonten, Glenn, EMNRD; Hill, Larry, EMNRD
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

The Agencies (City of Lovington and Oil Conservation Division- OCD) are in receipt of your submittal(s) in response to the October 22, 2009 Communique No. 1 e-mail stemming from the October 8, 2009 discharge permit and communication meeting in Santa Fe. Thank you for your prompt attention to the issues as we move forward to address the discharge permit requirements at the facility. Some other discharge permit related items are included below to assist NRC with any other discharge permit related items that the Agencies are dealing with at this time.

As the agencies move forward to complete the Communique No. 2 letter (letter) based on the October 8, 2009 meeting, the agencies have reviewed some of the submittals addressing Communique No. 1 and have provided comments and/or requirements listed below for a re-submittal to comply with the intent of the discharge permit. In addition, the Environmental Status Report and Hydrocarbon Release Investigation to address Section 17 of the discharge permit were received and currently under review by the Agencies and for consideration in the forthcoming Communique No. 2.

Triple-rinse process and storage for empty containers at the facility (Section 7)

The November 6, 2009 NRC submittal included triple-rinse and triple-rinse drum storage areas depicted on a map (Drawing 81-Z-03-D-01 dated 9/25/07) without correspondence. This indicates that NRC may be seeking permission or approval for these areas and the triple-rinse process to be included in the discharge permit. An e-mail was sent to NRC on Friday, November 6, 2009 informing NRC that a "Modification" request with more details on the process under the discharge permit is needed in order for the Agencies to approve it. NRC has approved triple-rinse language included in its Artesia Refinery discharge permit that the Lovington Refinery should follow in order to get this process approved at the Lovington Refinery. If Navajo has been triple-rinsing drums without this approval in the discharge permit, you are in violation of the discharge permit and the Agencies require that you stop immediately until a "Modification" request can be reviewed by the Agencies. NRC may be confused in that what has been approved at one facility is good for the other facility, but this is not the case. Each facility is under a separate discharge permit and are treated individually by the OCD. **NAVAJO RESPONSE: We will send a separate letter to request a "modification" of the permit to allow the triple rinse areas.**

Chemical Storage Area (Section 17ii)

The November 6, 2009 correspondence included a drawing 81-11-D dated 5/14/08 that depicts a 30 ft. x 60 ft. chemical storage pad, but the curb that separates areas to keep incompatible chemicals segregated from compatible chemicals on the storage pad cannot be discerned in the drawing. The OCD had been aware of the recently constructed pad to store

chemicals, but OCD's requirement under this discharge permit was to construct a second pad to separate incompatible chemicals stored on the pad. This does not appear to have been completed; however, if NRC can show the separation on the existing chemical storage pad to the Agencies, this may be acceptable. In fact, the drawing depicts drainage to one sump, which could be catastrophic in the event of an emergency where incompatible container fluids migrate to the only sump area resulting in an explosion and fire across the facility.... Please confirm in a written statement that the chemical storage pad is constructed properly will NOT allow incompatible chemicals to interact and result in an explosion or fire condition at the facility. **NAVAJO RESPONSE: The chemical storage pad has two sides with two separate sumps divided by a cement wall. I have attached a photo of the pad. (Chemical Pad 2.jpg)**

Sumps (Alternate Schedule) and adequate "Controls" (Section 11A)

The November 6, 2009 correspondence with table and aerial photos of sump locations. OCD had approved the decommissioning of the sumps requested for closure by the NRC with the determination that they did nothing for "Controls" section of the discharge permit at the facility. The table is lacking the date sumps were installed. A denotation for any sumps with secondary containment with leak detection is required in the table. **NAVAJO RESPONSE: The sump table has been updated and is attached. The sumps labeled "unknown" were in place when Navajo bought the facility in 1990, so they predate that. (Lovington Sumps.xls)**

Storm Water (Section 18):

As part of the approval of the sump decommissioning or "Controls" under the discharge permit, OCD requested that NRC conduct an evaluation of the adequacy of controls throughout the Lovington Refinery to assess and determine where additional controls could be added in high-risk release locations to prevent releases from impacting vast storm water or non-contact areas within the refinery property. In addition, in the October 22, 2009 Communique No 1 e-mail, the OCD indicated that while the "Controls" issue within the discharge permit may not be a violation at this time, there is a potential based on the type of release and lack of controls that this provision of the discharge permit may become a violation in the future? During the October 8, 2009 meeting, the OCD verbally displayed and discussed an example of a C-141 release that spanned approximately 1000 ft., which was later found to have been associated with releases from multiple valves that had inadvertently been left open along the pipeline. This was cited as a possible example of lack of controls that NRC should evaluate for the Lovington Refinery. Please provide a technical evaluation of "Controls" at the facility that may help to prevent major releases to storm water or non-contact areas from refinery activities. For example, high risk areas near process areas or areas with the most potential or threat for a major release. NRC may determine that additional sumps, process drains, etc. may be required to fulfill the "Controls" aspect of the discharge permit. Please note that a determination of adequate controls when there are inadequate controls may result in a violation of the permit and each release to the environment at the facility will be assessed for adequate controls. The OCD is aware of berms around tanks, which constitute controls for these bulk storage containers, but where releases occur into storm water or non-contact areas, these are of concern to the Agencies, up to and including adding pavement, curbs, etc. to control spills and releases. **NAVAJO RESPONSE: As Navajo has stated before, we are in full compliance with all Storm Water regulations. We have constructed a berm around the entire facility so that there is no run-on or run-off. We have no Storm Water discharge. I have attached the inspection report that Richard Powell with NMED wrote after his storm water inspection of our facility (Lovington Storm Water Inspection. PDF). There seems to be some confusion about what is and isn't storm water releases and what the Storm Water regulations cover. Having said that, Navajo is extremely concerned with protecting the groundwater at our Lovington Facility. We have been proactive in adding high and high-high level alarms on all tanks, and these are monitored 24 hours a day from the Lovington Refinery Control Room in addition to routine visual inspections of the tanks and local level monitoring by the plant operators and maintenance staff. Spills are dug up immediately and soil borings are done to determine extent of contamination and sample analysis conducted to ensure remediation effort is effective. We have added cement and curbing "controls" in areas that are susceptible to spills and I have attached copies of three separate Capital Budget Projects (2010 Lovington Concrete Work.doc, 2010 Lovington H-103 Concrete at Passes.doc, and 2010-Lovington Paving and Curbing.doc) scheduled to be completed in 2010 to further enhance controls already in place to show the effort Navajo has put in and continues to put in to protect groundwater.**

Above Ground Tanks Secondary Containment with Leak Detection Retrofit Schedule (Section 9)

The November 6, 2009 letter with attached table and alternate schedule for compliance is lacking the "Retrofit Date" column and date of December 31, 2013. Provide a brief summary of the retrofit specifications planned for this date. Include the standard 10-year API Tank Test schedule for each tank or is this the "Last Integrity Test Date" depicted in the table?. The "Last Integrity Test Date should indicate "pass/fail" and additional description of any corrective actions taken after tank failed. Please include a denotation for Praxair leak detection test date with pass/fail similar to the above sentence. Include denotation for all tanks with the "High Level Alarms" installed to facilitate future tracking of tanks with and without alarms. Finally, could or is tank gauging be part of the tank monitoring procedure at the refinery in order to

detect potential pinhole leaks in tanks? If so, the frequency of gauging could be included in the table. **NAVAJO RESPONSE: The revised tank leak detection schedule is attached. (Copy of Lovington Tank Leak Detection Project.xls).**

Note that any new tanks must comply with Section 9 requirements and must be approved by the Agencies with engineering drawings, etc. under a modification request.

Closure Plan with Cost Estimate for Ground Water Monitoring:

The closure plan is due November 30, 2009. The OCD has sent guidance for elements of a ground water closure plan from 20.6.2 NMAC, OCD regulations, and a cost estimate for closure at another refinery to assist NRC with development of a closure plan with financial assurance estimate for post closure monitoring under the discharge permit. It is doubtful that the letter under development by the Agencies will be completed before the due date; consequently, NRC must make some assumptions based on elements of a closure plan, additional MWs, monitoring costs for 30 years, inflation, etc., that must be a legitimate estimate in order to satisfy this provision of the discharge permit.

Submitted Reports:

This "Environmental Status Report dated November 6, 2009 was apparently not yet complete or available at the time of the October 8, 2009 meeting. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

"Hydrocarbon Release Investigation April 29, 2009 – May 1, 2009" was submitted to address Sections 17(iv & vi) and 19 of the discharge permit. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

Please submit the remaining issues highlighted in yellow above from Communique No. 1 and re-submit the required information by COB on Friday, November 27, 2009, or date approved by the Agencies. 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
(Pollution Prevention Guidance is under "Publications")

NEW MEXICO
ENVIRONMENT DEPARTMENT

Surface Water Quality Bureau

BILL RICHARDSON
Governor
DIANE DENISH
Lieutenant Governor

Harold Runnels Building, N2050
1190 South St. Francis Drive (87505)
P.O. Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-0187 Fax (505) 827-0160
www.nmenv.state.nm.us

RON CURRY
Secretary
JON GOLDSTEIN
Deputy Secretary

Certified Mail - Return Receipt Requested

November 20, 2009

Mr. Michael Whatley, Vice President
Navajo Refining Company
P.O. Box 159
Artesia, New Mexico 88211-0159

RE: Storm Water Compliance Evaluation Inspection, Lea Refinery, NMR00A158, November 12, 2009

Dear Mr. Whatley:

Enclosed, please find a copy of the report for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas, for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

Problems noted during this inspection are discussed in the Further Explanations section of the inspection report. You are encouraged to review the inspection report; and required to correct any problems noted during the inspection and to modify your operational and/or administrative procedures, as appropriate. Further, you are encouraged to notify in writing, both USEPA and NMED regarding modifications and compliance schedules.

The NPDES Storm Water Multi-Sector General Permit for Industrial Activities (MSGP) was re-issued effective September 29, 2008 (see **Federal Register/Vol. 73, No. 189/Monday, September 29, 2008** pg. 56572). For questions regarding permitting please see: http://cfpub.epa.gov/npdes/stormwater/msgp.cfm.

If you have any questions, please feel free to contact me at the above address or by telephone at (505) 827-2798.

Sincerely,

Richard E. Powell
Surface Water Quality Bureau

CC: Stacey Bennett-Dwyer, USEPA (6EN-AS) by email
Carol Peters-Wagnon, USEPA (6EN-WM) by email
Marcia Gail Bohling, USEPA (6EN-AS) by email
Diana McDonald, USEPA (6EN-WM) by email
Rudt Molina, USEPA (6WQ-PP) by email
Carl Chavez, OCD by email
NMED, District IV Roswell by email
City of Lovington by email

EPA

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

1	Transaction Code	2	3	NPDES	11	12	yr/mo/day	17	18	Inspec. Type	19	Inspector	20	Fac Type
	N	5	N	NMR00A158			091112			~		S		2

Remarks: PETROLEUM REFINERY

Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved
67–69	70: S	71: N	72: N	73–80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*	Entry Time /Date	Permit Effective Date
NAVAJO REFINING COMPANY/LEA REFINERY, SOUTH OF LOVINGTON, NM ON WEST SIDE OF NM HIGHWAY 18 - LEA COUNTY	1300/11-12-09	9-29-08
	Exit Time/Date 1445/11-12-09	Permit Expiration Date 9-29-13

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)	Other Facility Data
JOHNNY LACKEY, ENVIRONMENTAL MANAGER (575) 748-3311 DARRELL MOORE, MANAGER OF WATER & WASTE (575) 748-3311 STEVE TERRY, SAFETY COORDINATOR (575) 396-5821	LAT 32 52 45.8 LONG –103 18 05.5 SIC CODE – 2911
Name, Address of Responsible Official/Title/Phone and Fax Number MR. MICHAEL WHATLEY, VICE PRESIDENT/PLANT MANAGER, NAVAJO REFINING COMPANY, P.O. BOX 159, ARTESIA, NM 88211-0159 (575) 748-3311	Contacted Yes [ ] No [*]

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	N	Flow Measurement	N	Operations & Maintenance	N	CSO/SSO
N	Records/Reports	N	Self-Monitoring Program	N	Sludge Handling/Disposal	N	Pollution Prevention
S	Facility Site Review	N	Compliance Schedules	N	Pretreatment	N	Multimedia
N	Effluent/Receiving Waters	N	Laboratory	S	Storm Water	N	Other:

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

1. FACILITY TERMINATED NPDES PERMIT #NMR05A158 ON NOVEMBER 13, 1995 BECAUSE THEY BELIEVE THEY CAN NO LONGER DISCHARGE. SEE REPORT AND FURTHER EXPLANATIONS.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone/Fax	Date
RICHARD E. POWELL	NMED/SWQB 505-827-2798	11-20-09
Signature of Management QA Reviewer STEVEN M. BAUMGARN	Agency/Office/Phone and Fax Numbers NMED/SWQB 575-647-7981	Date 11/20/09

EPA Form 3560-3 (Rev. 9-94) Previous editions are obsolete.

Compliance Evaluation Inspection
Navajo Refining Company
NPDES Facility #NMR00A158, November 12, 2009

Further Explanations

Introduction

On November 12, 2009, a Compliance Evaluation Inspection was conducted at the Navajo Refining Company/Lea Refinery (petroleum refining - Standard Industrial Classification Code 2911) located near Lovington, New Mexico by Richard E. Powell of the State of New Mexico Environment Department (NMED). The purpose of this inspection was to document the operator's status regarding the NPDES multi-sector general storm water permit (MSGP) for industrial activities (this facility has industrial activities being conducted on-site that meet the description of industrial activities in section C) and storm water regulations at **40 Code of Federal Regulations (CFR) Part 122.26**.

Lea Refinery is a crude oil distillation topping plant (first distillation off crude oil). The product from this initial distillation is sent via pipeline to the Navajo Refining Company facility located in Artesia, New Mexico. Asphaltic materials are also produced at Lea Refinery and shipped to the Artesia plant via truck. Lea Refinery filed for NPDES storm water permit coverage on September 30, 1992 and was issued permit tracking #NM00A158 under the expired (September 9, 1997) NPDES baseline general storm water permit. Navajo Refining Company terminated permit coverage effective November 13, 1995. According to the facility's representatives and the cover letter accompanying the Notice of Termination:

> In August 1995, we built an earthen berm completely around the facility. This berm is built to withstand a 100 year flood and prevents storm water from running-on or –off of this facility. This effectively removes this property from the Storm Water Program.

If storm water were to runoff from this facility, discharges would be to tributaries to Seminole Draw in the Lea Plateau minor Basin, Southern High Plains major Basin. This report is based on a review of files maintained by the facility operator and NMED, on-site observation by NMED personnel, and verbal information provided by Navajo Refining personnel; Messrs. Johnny Lackey, Environmental Manager, Darrell Moore, Manager of Water & Waste, and Steve Terry, Safety Coordinator.

As an interested party, City of Lovington Public Works Department staff sat in on this NPDES inspection with the agreement of the refinery operator. Lovington does not have an approved pre-treatment program. According to facility representatives, all water from the process areas at the refinery are captured, sampled four times per day and discharged to the Lovington WWTP. These flows from the refinery are also sampled by City staff once per day at the plant. The inspector did not investigate whether any initial assessment or periodic monitoring data, if required, has been submitted to EPA Region 6. In addition, one of the City's drinking water supply wells is located adjacent to the north side of the refinery and the refinery property appears to be within the source water protection area for the City's drinking water supply. Ground water is approximately 100 feet deep in this area, but according to refinery and City staff, no impacts to the drinking water supply have been documented to date.

An entrance interview was conducted with Messrs. Lackey, Moore and Terry at approximately 1300 hours on November 12, 2009. The inspector made introductions, presented his credentials and discussed the purpose of the inspection. City of Lovington staff arrived somewhat later during the inspection.

Findings

Section 301 (a) of the Federal Water Pollution Control Act (a.k.a. Clean Water Act) states that "Except as in compliance with this section and sections 302, 306, 307, 318, 402 and 404 of this Act, the discharge of any pollutant by any person shall be unlawful."

40 Code of Federal Regulations Part 122.21(a) Duty to apply (1) states "Any person who discharges or proposes to discharge pollutants ...must submit a complete application to the Director in accordance with this section and part 124 of this chapter."

"Contaminated runoff" is defined as "runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property." Most areas at refineries are not eligible for coverage under the MSGP including: raw material, intermediate product, by-product, final product, waste material, chemical, and material storage areas; loading and unloading areas; transmission pipelines; and, processing areas. Runoff that may be eligible for coverage, provided discharges are not co-mingled with "contaminated runoff," include: vehicle and equipment storage, maintenance and refueling areas.

As noted above, according to the facility's representatives, all contaminated runoff and other process wastewaters from the process areas at the refinery are captured and directed to the City of Lovington WWTP. However, other information available to the inspector indicates that there may have been spills of process wastewater and other materials (e.g., fuel) at this facility that likely have, or could have, co-mingled with storm water resulting in contaminated runoff discharges if discharge off-site were to occur. Because the refinery staff believes that there is no storm water runoff, contaminated or otherwise, from the refinery as discussed below, a thorough review of the potential contributions from process areas to the storm water circuit was not conducted on the date of this inspection, nor was possible impacts of refinery operations on drinking water quality assessed.

Also as noted above, this facility had coverage under the NPDES baseline general storm water permit until permit coverage was terminated by the operator on November 13, 1995. This facility does not currently have NPDES storm water or process waste water permit coverage. Although design data was not available on the date of this inspection, according to the facility's representatives, berms have been constructed around the facility that allow for containment of all storm water runoff from a 100-yr, 24-hr storm event. The berms have been constructed (in some cases incorporated into the secondary containment berms around various storage tanks) both upstream to direct run-on around the site and down-stream to impound internal flows. Most of the internal run-off flows south and east to the southeast corner of the property. Some run-off flows east to the adjacent railroad right-of-way, which diverts and directs flows also to the southeast corner of the property. These flows are impounded in shallow depressions in the southeast corner as well as by the railroad grade and an adjacent access road (both 4 - 6 feet above grade in and adjacent to the corner). No evidence of recent discharge off-site was observed.

An exit interview to discuss the preliminary findings of this inspection was conducted from approximately 1430 - 1445 hours on November 12, 2009 with Messrs. Lackey, Moore and Terry, at the refinery office.

HOLLY CORPORATION
CAPITAL BUDGET WORKSHEET

YEAR: 2010

DIVISION: Operations REQ #:

LOCATION: Navajo Refining Company (Lea Plant) AMOUNT $: 22,000

DESCRIPTION:

Install a cement pad under the Crude Furnace Pass Control Valves.

JUSTIFICATION:

A cement pad under the furnace pass control valves will help minimize if not avoid an Environmental Impact if a leak was to occur here. This area is currently surrounded by cement on 3 sides and a blacktop road on the fourth side.

As a condition of Navajo's Discharge Permit, GW-014, the Oil Conservation Division (OCD) requires that "The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases and spills have reached the ground surface."

APPROXIMATE DATE SCHEDULED: 3Q-2010 EST.COMPLETION DATE: 3Q-2010

EST. TOTAL CASH (CAPITAL): $ 22,000

EST. MATERIAL ON HAND (CAPITAL) $

EST. "OMS" EXPENSE $

ESTIMATED TOTAL CASH $ 22,000

NET SALVAGE VALUE OF EQUIPMENT TO BE REPLACED $

ECONOMICS: ESTIMATED ANNUAL EARNINGS/SAVINGS $

PAYOUT YRS. DCF RETURN % LIFE YRS

PREPARED BY: Eloy T. Hernandez APPROVED BY:

CAPBUDGT

November 20, 2009

NAVAJO REFINING, LOVINGTON TANK LEAK DETECTION SCHEDULE

TANK ID	TYPE OF TANK	HIGH LEVEL ALARM	GAUGING FREQUENCY	NEW/USED	VOLUME (bbl)	CHEMICAL STORED	YEAR BUILT (Tank age)	RETROFIT DATE	Leak Detection Pass/Fail	Last API 653 Test Date (Pass/Fail)
Priority 1										
2013										
T-101B	EFR	Yes	Daily	USED	70,000	Desulfurized Naphtha	1974 (35 yrs)	December 31, 2013	*	** 1995 (Pass)
T-102B	EFR	Yes	Daily	USED	35,000	Straight Run Gasoline	1973 (36 yrs)	December 31, 2013	*	** 2002 (Pass)
T-1201A	EFR	Yes	Daily	USED	154,500	Crude Oil	1973 (36 yrs)	December 31, 2013	*	** 2008 (Pass)
T-1201B	EFR	Yes	Daily	USED	154,500	Crude Oil	1973 (36 yrs)	December 31, 2013	*	** 2008 (Pass)
T-103A	VFR	Yes	Daily	USED	30,000	Raw Diesel	1973 (36 yrs)	December 31, 2013	*	** 1991 (Pass)
T-103B	VFR	Yes	Daily	USED	30,000	Raw Diesel	1973 (36 yrs)	December 31, 2013	*	** 1991 (Pass)
T-1204	VFR	Yes	Daily	USED	43,860	Raw Diesel	1973 (36 yrs)	December 31, 2013	*	** 1991 (Pass)
T-1202	EFR	Yes	Daily	USED	108,130	Crude Oil	1973 (36 yrs)	December 31, 2013	*	** 2002 (Pass)
T-1214	VFR	Yes	Daily	USED	20,000	Gas Oil	1980 (29 yrs)	December 31, 2013	*	** 2006 (Pass)
T-1215	VFR	Yes	Daily	USED	20,000	Heavy Slop	1980 (29 yrs)	December 31, 2013	*	** 2002 (Pass)
T-1207	IFR	Yes	Daily	USED	10,800	Light Slop Oil	1973 (36 yrs)	December 31, 2013	*	** 2006 (Pass)
Priority 2										
T-102A	EFR	Yes	Daily	USED	35,000	Desulfurized Naphtha	1973 (36 yrs)	December 31, 2013	*	** 1991 (Pass)
T-1203	EFR	Yes	Daily	USED	53,800	Atmos Gas Oil	1973 (36 yrs)	December 31, 2013	*	** 2008 (Pass)
T-104A	VFR	Yes	Daily	USED	15,000	Raw Kerosene	1974 (35 yrs)	December 31, 2013	*	** 1991 (Pass)
T-104B	VFR	Yes	Daily	USED	15,000	Atmos Gas Oil	1974 (35 yrs)	December 31, 2013	*	** 1991 (Pass)
T-1205	VFR	Yes	Daily	USED	30,700	Heavy Vacuum Gas Oil	1973 (36 yrs)	December 31, 2013	*	** 2005 (Pass)
T-1206	VFR	Yes	Daily	USED	97,180	Atmos Gas Oil	1973 (36 yrs)	December 31, 2013	*	** 2002 (Pass)
T-1209	EFR	Yes	Daily	USED	18,000	Light Slop Oil	1973 (36 yrs)	December 31, 2013	*	**Out of Service**
1201C	VFR	Yes	Daily	New 2005	97,000	Waste Water	2005 (4 yrs)	December 31, 2013	*	New 2005
1201D	VFR	Yes	Daily	USED	97,000	Waste Water	1973 (36 yrs)	December 31, 2013	*	** 2007 (Pass)
T-1208	IFR	Yes	Daily	USED	5,380	Waste Water	1973 (36 yrs)	December 31, 2013	*	** 2004 (Pass)

***** - This column will be updated as tanks are tested and will denote Pass or Fail when testing is completed. When leak detection is installed, 20% of the tanks will be tested annually per the Lovington Discharge Permit (GW 014)

****** - API 653 6.4.2 Inspection Intervals

6.4.2.1 Intervals between internal inspections shall be determined by the corrosion rates measured during previous inspections or anticipated based on experience with tanks in similar service. Normally, bottom corrosion rates will control and the inspection interval will be governed by the measured or anticipated corrosion rates and the calculations for minimum required thickness of tank bottoms (see 4.4.7). The actual inspection interval shall be set to ensure that the bottom plate minimum thicknesses at the next inspection are not less than the values listed in Table 6-1. In no case, however, shall the internal inspection interval exceed 20 years

6.4.2.2 When corrosion rates are not known and similar service experience is not available to estimate the bottom plate minimum thickness at the next inspection, the internal inspection interval shall not exceed 10 years.

To determine intervals for internal inspections Navajo runs a calculation for corrosion rate when the tank floor is inspected and then determines the longest interval between inspections keeping it to 20 years max. For new tanks or tanks that have a new floor, Navajo sets the interval at 10 years to establish a corrosion rate for the floor. Our minimum required thickness on a floor is .100", however there are a few exceptions dependant on certain coatings or foundation designs.

Summary of the Praxair Technology that will be used for tank leak detection

Praxair Services' *Tracer Tight* leak detection technology surpasses all other test methods because of its superior sensitivity and compatibility with site operations.
Tracer Tight is a patented leak detection technology, which uses a variety of highly volatile tracer chemicals. The test consists of inoculating the AST with an extremely small amount of tracer chemical.
Probes are installed under and around the tank bottom, which allows the technician to collect soil vapor samples. If there's a leak, the tracer will escape into the soil. Gas chromatography is used to detect tracer at concentrations of 10 parts per trillion.
This allows Praxair Services to identify and locate very small leaks. Typically, leaks as small as 1 gallon per day are easily detectable regardless of the size of the tank.

Advantages:

Tanks remain in-service during the entire *Tracer Tight* test.
Leak detection sensitivity of 1 gallon per day regardless of tank size or geometry.
Compatible with any hydrocarbon and virtually any chemical (including all fuel and crude oils)
Test any size tank without loss of sensitivity.

HOLLY CORPORATION
CAPITAL BUDGET WORKSHEET

YEAR: 2010

DIVISION: Environmental (Operations) REQ #: _____

LOCATION: Navajo Refining Company (Lea Plant) AMOUNT $: 100,000

DESCRIPTION: Carry over item #148 on EH & S 2007 Capital Budget. Additional amount added to cover project.

(1) Install a 6 inch concrete pad with re-bar around Off-Gas compressors and under and around the Gas Oil Aerial Coolers (2 Sets).
(2) Install pavement around the Cooling Tower.

JUSTIFICATION:

As a condition of Navajo's Discharge Permit, GW-014, the Oil Conservation Division (OCD) requires that "The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases and spills have reached the ground surface."

APPROXIMATE DATE SCHEDULED: 2Q-2010 EST.COMPLETION DATE: 3Q-2010

EST. TOTAL CASH (CAPITAL): $ 100,000

EST. MATERIAL ON HAND (CAPITAL) $ _____

EST. "OMS" EXPENSE $ _____

ESTIMATED TOTAL CASH $ 100,000

NET SALVAGE VALUE OF EQUIPMENT TO BE REPLACED $ _____

ECONOMICS: ESTIMATED ANNUAL EARNINGS/SAVINGS $ _____

PAYOUT _____ YRS. DCF RETURN _____ % LIFE _____ YRS

PREPARED BY: Eloy T. Hernandez APPROVED BY: _____

CAPBUDGT

HOLLY CORPORATION
CAPITAL BUDGET WORKSHEET

YEAR: 2010

DIVISION: Environmental REQ #: _____

LOCATION: Lovington AMOUNT: _____

DESCRIPTION: Paving and Curbing

JUSTIFICATION:
As a condition of Navajo's Discharge Permit, GW-014, the Oil Conservation Division (OCD) requires that "The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases and spills have reached the ground surface."

Navajo will pour concrete containment with curbing at process, maintenance and yard areas which show evidence that water contaminants from releases and spills have reached the ground surface.

SUSTAINING

APPROXIMATE DATE SCHEDULED: 04/30/2010 EST.COMPLETION DATE: 06/30/2010

EST. TOTAL CASH (CAPITAL): $150,000.00

EST. MATERIAL ON HAND (CAPITAL) $ _____

EST. "OMS" EXPENSE $ _____

ESTIMATED TOTAL CASH $150,000.00

NET SALVAGE VALUE OF EQUIPMENT TO BE REPLACED $ _____

ECONOMICS: ESTIMATED ANNUAL EARNINGS/SAVINGS $ _____

PAYOUT _____ YRS. DCF RETURN _____ % LIFE _____ YRS

PREPARED BY: Johnny Hickey APPROVED BY: _____

CAPBUDGT

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, November 12, 2009 8:14 AM
To: 'Moore, Darrell'; 'Lackey, Johnny'
Cc: 'Michael Leighton'; 'hsncpbm@leaco.net'; 'kurtporter@valornet.com'; VonGonten, Glenn, EMNRD; Hill, Larry, EMNRD
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit Items (from October 22, 2009 Communique and October 8, 2009 Meeting in Santa Fe)

Darrell and Johnny:

The Agencies (City of Lovington and Oil Conservation Division- OCD) are in receipt of your submittal(s) in response to the October 22, 2009 Communique No. 1 e-mail stemming from the October 8, 2009 discharge permit and communication meeting in Santa Fe. Thank you for your prompt attention to the issues as we move forward to address the discharge permit requirements at the facility. Some other discharge permit related items are included below to assist NRC with any other discharge permit related items that the Agencies are dealing with at this time.

As the agencies move forward to complete the Communique No. 2 letter (letter) based on the October 8, 2009 meeting, the agencies have reviewed some of the submittals addressing Communique No. 1 and have provided comments and/or requirements listed below for a re-submittal to comply with the intent of the discharge permit. In addition, the Environmental Status Report and Hydrocarbon Release Investigation to address Section 17 of the discharge permit were received and currently under review by the Agencies and for consideration in the forthcoming Communique No. 2.

Triple-rinse process and storage for empty containers at the facility (Section 7)

The November 6, 2009 NRC submittal included triple-rinse and triple-rinse drum storage areas depicted on a map (Drawing 81-Z-03-D-01 dated 9/25/07) without correspondence. This indicates that NRC may be seeking permission or approval for these areas and the triple-rinse process to be included in the discharge permit. An e-mail was sent to NRC on Friday, November 6, 2009 informing NRC that a "Modification" request with more details on the process under the discharge permit is needed in order for the Agencies to approve it. NRC has approved triple-rinse language included in its Artesia Refinery discharge permit that the Lovington Refinery should follow in order to get this process approved at the Lovington Refinery. If Navajo has been triple-rinsing drums without this approval in the discharge permit, you are in violation of the discharge permit and the Agencies require that you stop immediately until a "Modification" request can be reviewed by the Agencies. NRC may be confused in that what has been approved at one facility is good for the other facility, but this is not the case. Each facility is under a separate discharge permit and are treated individually by the OCD.

Chemical Storage Area (Section 17ii)

The November 6, 2009 correspondence included a drawing 81-11-D dated 5/14/08 that depicts a 30 ft. x 60 ft. chemical storage pad, but the curb that separates areas to keep incompatible chemicals segregated from compatible chemicals on the storage pad cannot be discerned in the drawing. The OCD had been aware of the recently constructed pad to store chemicals, but OCD's requirement under this discharge permit was to construct a second pad to separate incompatible chemicals stored on the pad. This does not appear to have been completed; however, if NRC can show the separation on the existing chemical storage pad to the Agencies, this may be acceptable. In fact, the drawing depicts drainage to one sump, which could be catastrophic in the event of an emergency where incompatible container fluids migrate to the only sump area resulting in an explosion and fire across the facility.... Please confirm in a written statement that the chemical storage pad is constructed properly will NOT allow incompatible chemicals to interact and result in an explosion or fire condition at the facility.

Sumps (Alternate Schedule) and adequate "Controls" (Section 11A)

The November 6, 2009 correspondence with table and aerial photos of sump locations. OCD had approved the decommissioning of the sumps requested for closure by the NRC with the determination that they did nothing for "Controls" section of the discharge permit at the facility. The table is lacking the date sumps were installed. A denotation for any sumps with secondary containment with leak detection is required in the table.

Storm Water (Section 18):

As part of the approval of the sump decommissioning or "Controls" under the discharge permit, OCD requested that NRC conduct an evaluation of the adequacy of controls throughout the Lovington Refinery to assess and determine where additional controls could be added in high-risk release locations to prevent releases from impacting vast storm water or non-contact areas within the refinery property. In addition, in the October 22, 2009 Communique No 1 e-mail, the OCD indicated that while the "Controls" issue within the discharge permit may not be a violation at this time, there is a potential based on the type of release and lack of controls that this provision of the discharge permit may become a violation in the future? During the October 8, 2009 meeting, the OCD verbally displayed and discussed an example of a C-141 release that spanned approximately 1000 ft., which was later found to have been associated with releases from multiple valves that had inadvertently been left open along the pipeline. This was cited as a possible example of lack of controls that NRC should evaluate for the Lovington Refinery. Please provide a technical evaluation of "Controls" at the facility that may help to prevent major releases to storm water or non-contact areas from refinery activities. For example, high risk areas near process areas or areas with the most potential or threat for a major release. NRC may determine that additional sumps, process drains, etc. may be required to fulfill the "Controls" aspect of the discharge permit. Please note that a determination of adequate controls when there are inadequate controls may result in a violation of the permit and each release to the environment at the facility will be assessed for adequate controls. The OCD is aware of berms around tanks, which constitute controls for these bulk storage containers, but where releases occur into storm water or non-contact areas, these are of concern to the Agencies, up to and including adding pavement, curbs, etc. to control spills and releases.

Above Ground Tanks Secondary Containment with Leak Detection Retrofit Schedule (Section 9)

The November 6, 2009 letter with attached table and alternate schedule for compliance is lacking the "Retrofit Date" column and date of December 31, 2013. Provide a brief summary of the retrofit specifications planned for this date. Include the standard 10-year API Tank Test schedule for each tank or is this the "Last Integrity Test Date" depicted in the table?. The "Last Integrity Test Date should indicate "pass/fail" and additional description of any corrective actions taken after tank failed. Please include a denotation for Praxair leak detection test date with pass/fail similar to the above sentence. Include denotation for all tanks with the "High Level Alarms" installed to facilitate future tracking of tanks with and without alarms. Finally, could or is tank gauging be part of the tank monitoring procedure at the refinery in order to detect potential pinhole leaks in tanks? If so, the frequency of gauging could be included in the table.

Note that any new tanks must comply with Section 9 requirements and must be approved by the Agencies with engineering drawings, etc. under a modification request.

Closure Plan with Cost Estimate for Ground Water Monitoring:

The closure plan is due November 30, 2009. The OCD has sent guidance for elements of a ground water closure plan from 20.6.2 NMAC, OCD regulations, and a cost estimate for closure at another refinery to assist NRC with development of a closure plan with financial assurance estimate for post closure monitoring under the discharge permit. It is doubtful that the letter under development by the Agencies will be completed before the due date; consequently, NRC must make some assumptions based on elements of a closure plan, additional MWs, monitoring costs for 30 years, inflation, etc., that must be a legitimate estimate in order to satisfy this provision of the discharge permit.

Submitted Reports:

This "Environmental Status Report dated November 6, 2009 was apparently not yet complete or available at the time of the October 8, 2009 meeting. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

"Hydrocarbon Release Investigation April 29, 2009 – May 1, 2009" was submitted to address Sections 17(iv & vi) and 19 of the discharge permit. The Agencies are currently reviewing this report for the letter that will satisfy "Communique No. 2" from the October 22, 2009 e-mail.

Please submit the remaining issues highlighted in yellow above from Communique No. 1 and re-submit the required information by COB on Friday, November 27, 2009, or date approved by the Agencies. 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

NAVAJO REFINING COMPANY, LLC

FAX
(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX
(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

November 6, 2009

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

RECEIVED OCD
2009 NOV -9 A 11: 27

RE: Drawing of Chemical Pad, GW-014 **Delivered via Fed Ex**

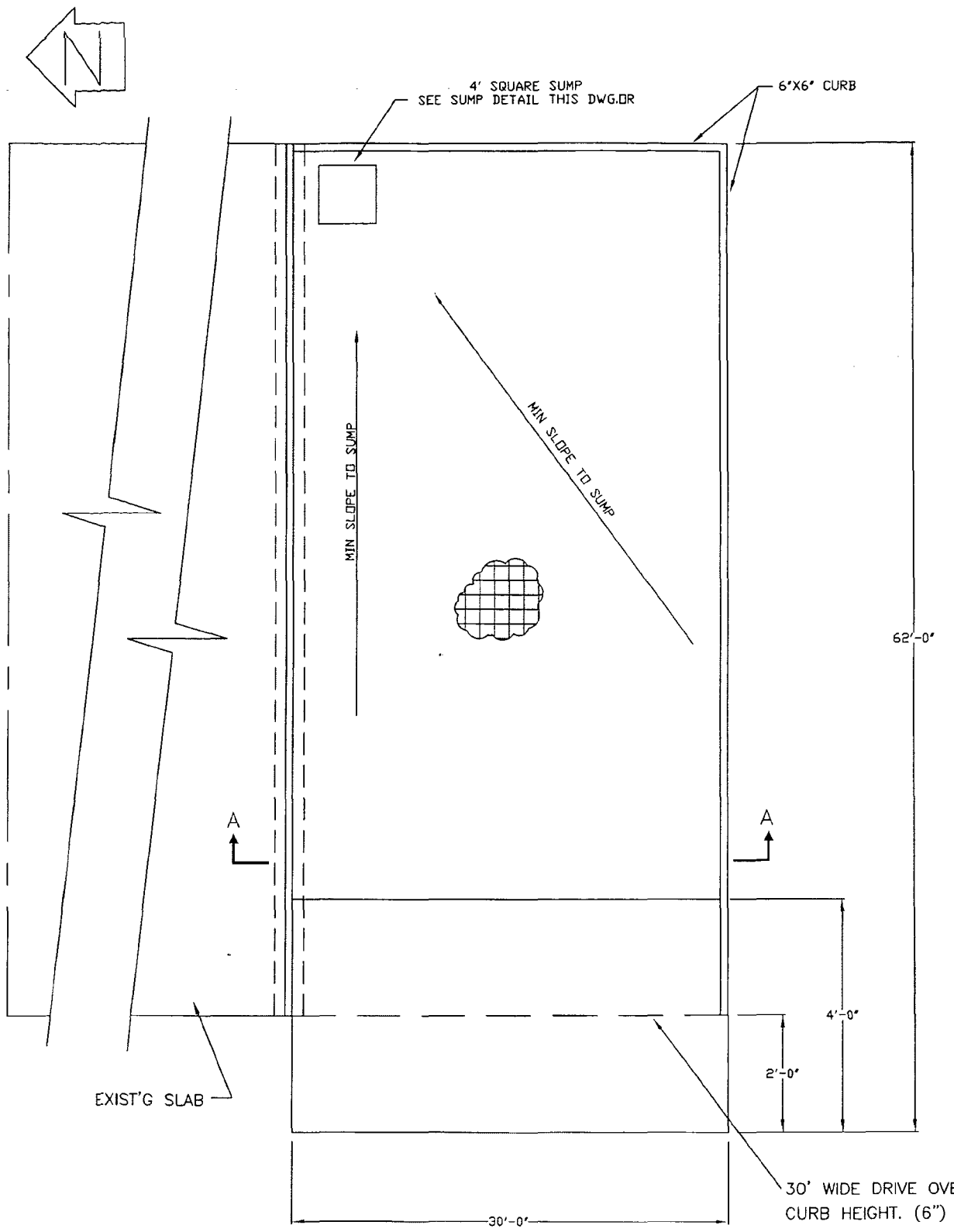
Dear Carl,

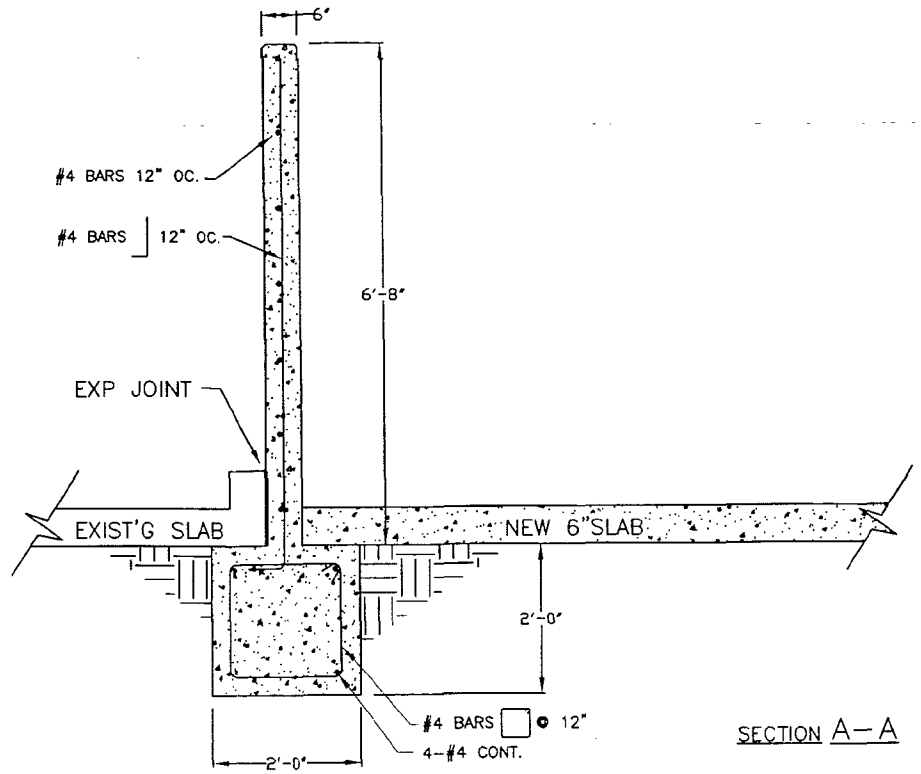
Enclosed, please find the drawing of the segregated chemical storage pad at our Lovington facility. This drawing satisfies your request in your e mail of October 22, 2009 Section 17 ii concerning this pad.

Sincerely,
NAVAJO REFINING COMPANY,LLC

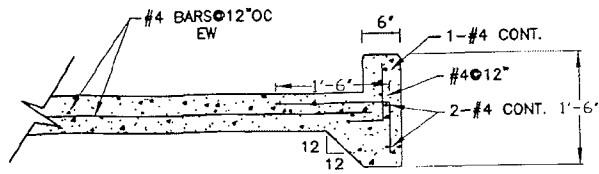
Darrell Moore
Environmental Manager for Water and Waste

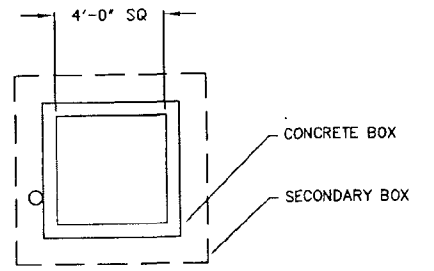
Encl:



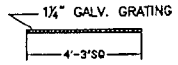


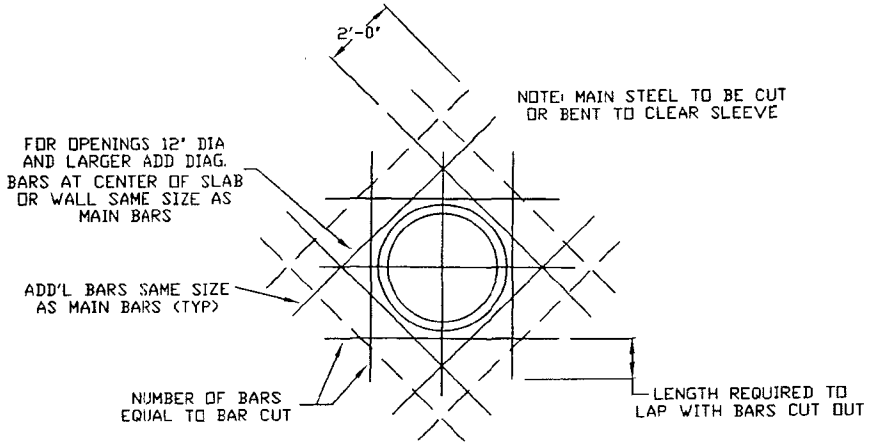
SECTION A–A



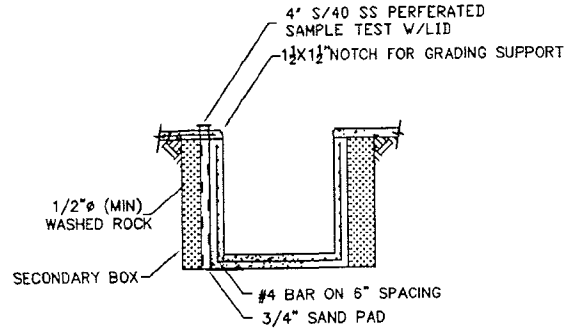


PLAN OF 4'–0" SUMP BOX





ADD'L REINFORCEMTNT AT SLAB
PENETRATIONS AND ROUND SLEEVES
IN WALL OR FLOOR



4' SQ SUMP DETAIL

NOTES:

1. CONCRETE SHALL TEST 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. A ¾" CHAMFER SHALL BE USED ON ALL EXPOSED EDGES OF CONCRETE.
3. FILL AND/OR NATIVE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR DENSITY.

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
A	ISSUED FOR REVIEW AND COMMENT	DGJ	–	5/14/08		

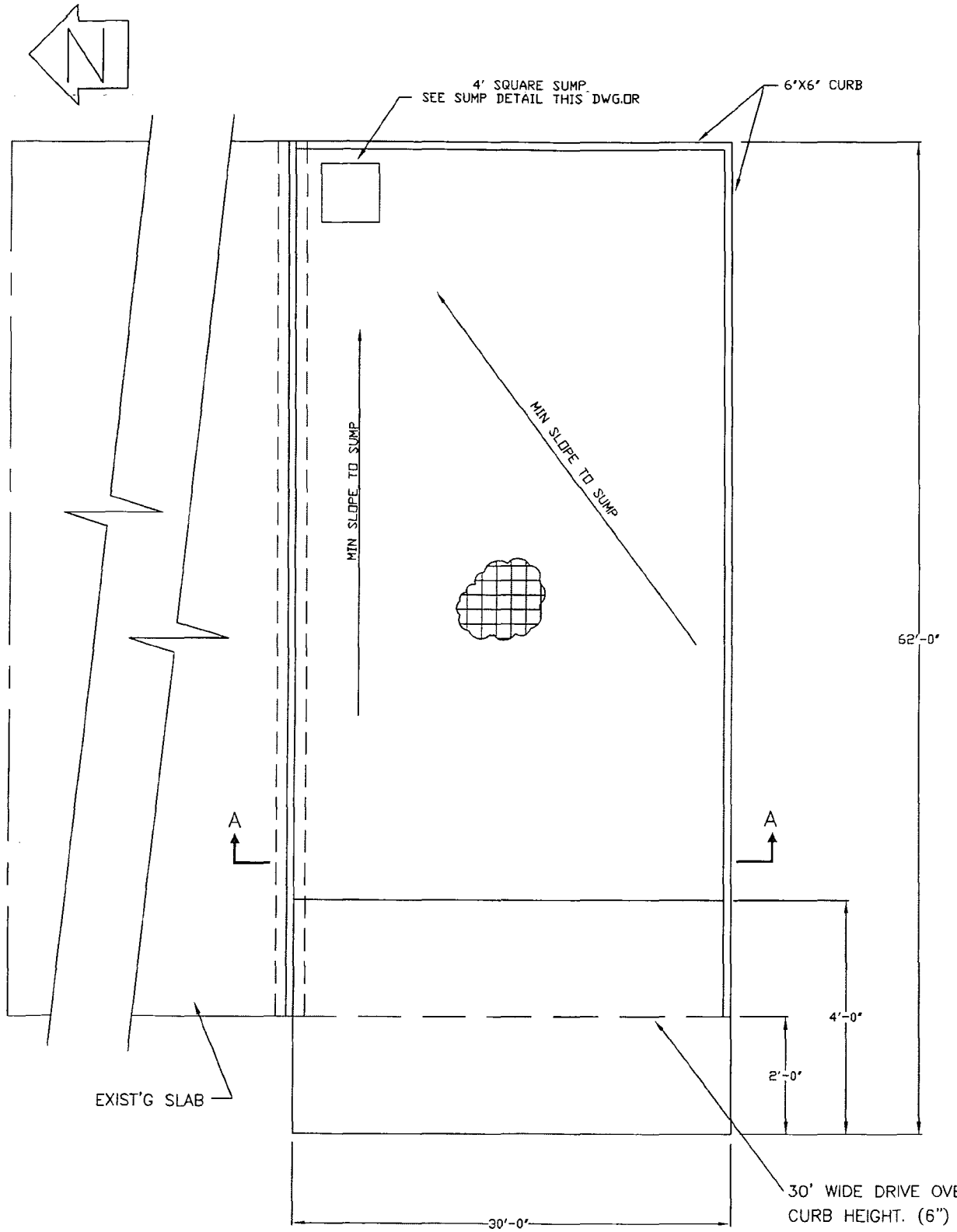
DRAWING TITLE

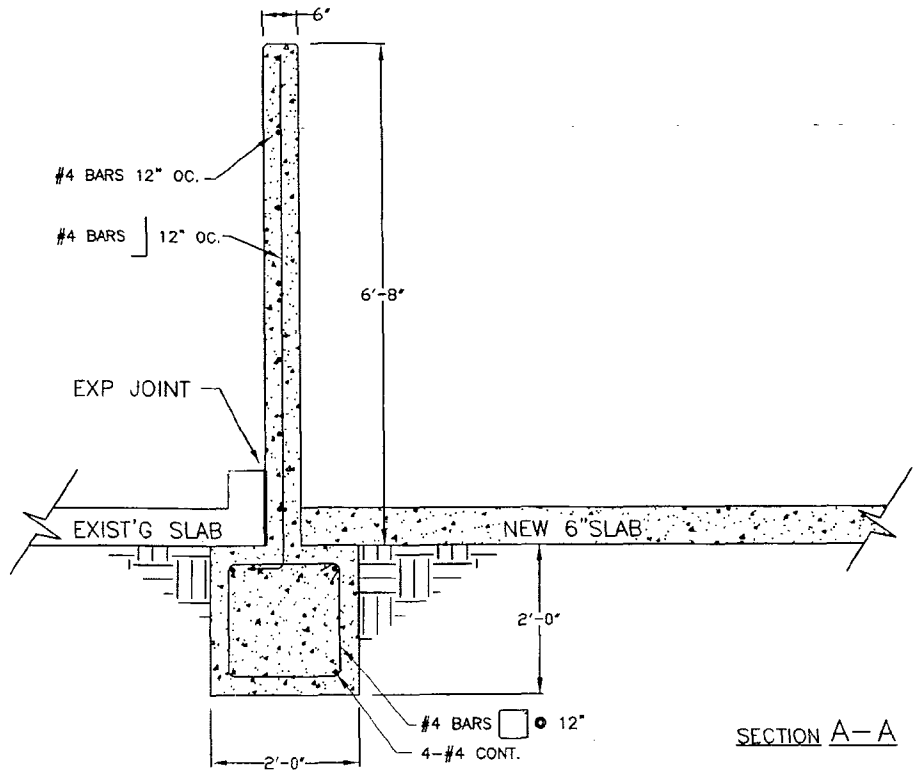
CHEMICAL STORAGE PAD
GENERAL PLT UNIT 81
LEA REFINING

AAA UNIT DWGS UNIT 81 FOUNDATIONS

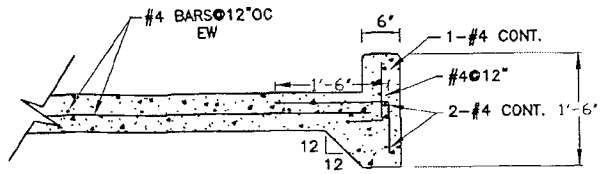
NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

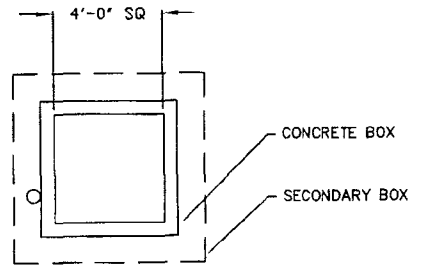
DRAWN BY	CHK'D BY	SCALE	
DGJ	–	SCALE	
DATE	APPR BY	DRAWING NUMBER	REV.
05/14/08	–	81–11–D	A



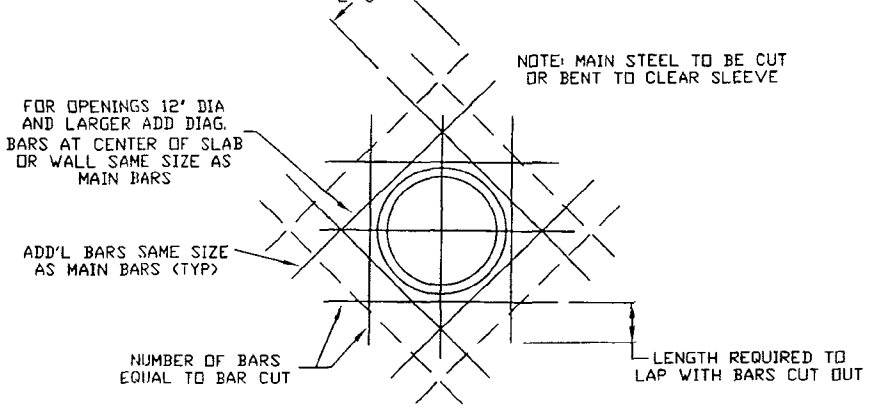


SECTION A-A

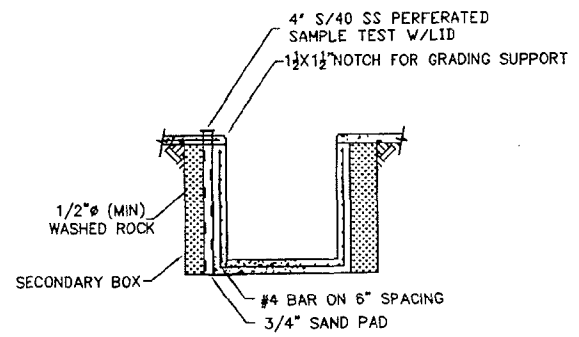




PLAN OF 4'-0" SUMP BOX



ADD'L REINFORCEMTNT AT SLAB
PENETRATIONS AND ROUND SLEEVES
IN WALL OR FLOOR



4' SQ SUMP DETAIL

NOTES:

1. CONCRETE SHALL TEST 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. A ¾" CHAMFER SHALL BE USED ON ALL EXPOSED EDGES OF CONCRETE.
3. FILL AND/OR NATIVE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR DENSITY.

NOTES

REFERENCE DRAWINGS

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.

NO.	REVISIONS	BY	CHK.	DATE	APPR.	APPR.
A	ISSUED FOR REVIEW AND COMMENT	DGJ	–	5/14/08		

DRAWING TITLE

CHEMICAL STORAGE PAD
GENERAL PLT UNIT 81
LEA REFINING

AAA UNIT DWGS UNIT 81 FOUNDATIONS

NAVAJO REFINING CO.
ENGINEERING DEPARTMENT
P.O. DRAWER 159
ARTESIA, NEW MEXICO

DRAWN BY	CHK'D BY	SCALE
DGJ	–	SCALE
DATE	APPR BY	DRAWING NUMBER / REV.
05/14/08	–	81-11-D / A

NAVAJO REFINING COMPANY, LLC

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(575) 746-5421 ENGINEERING

November 6, 2009

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

RE: Sumps at Lea Refining Company, GW-014 **Delivered vis Fed Ex**

Dear Carl,

Enclosed, please find the table of all sumps at Lovington and two aerial photographs with the sumps highlighted. On the table, all sumps with "Backfill and Cap" in the comments section have been filled with cement. This submission fulfills your request in your e mail of October 22, 2009 Section 11 on sumps and Section 18 on Storm Water controls. However, Navajo can foresee no circumstance where these sumps would in any way be construed as "controls" for storm water.

Sincerely,
NAVAJO REFINING COMPANY,LLC

Darrell Moore
Environmental Manager for Water and Waste

Encl:

NAVAJO REFINING COMPANY
LOVINGTON REFINERY
LISTING OF ALL SUMPS

REVISION #4 — Jan. 13, 2009

NO. OF SUMPS	SUMP ID #	LOCATION	DESCRIPTION	APPROX DIMENSIONS	LAST TEST DATE	NEXT TEST DUE	TEST PASS / FAIL	TESTED BY	TEST METHOD	REPAIR METHOD	COMMENT
1	83SUMP01	EAST OF COOLING TOWER, NORTH OF RACK @ E-438	CONCRETE BOX	CONCRETE CAP	N/A	N/A					(OUT OF SERVICE) OLD HDU SEWER HUB OR LIFT STATION, BACKFILL AND CAP PENDING ENVIRONMENTAL APPROVAL
2	83SUMP02	AT OLD BUNDLE CLEANING PAD	CONCRETE BOX	4' X 4' X 4', 3' X 32'-6" X 4'	11/18/2008	N/A	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) 2 SUMPS, BACKFILL AND CAP PENDING ENVIRONMENTAL APPROVAL
3	83SUMP03	AT CHEMICAL STORAGE PAD	CONCRETE BOX	4' x 4' x 4'	6/1/2004	6/1/2009					TEST - SUMP NEW IN 2004
4	83SUMP04	(NAPHTHA SUMP) NORTH OF CONTROL ROOM	CONCRETE BOX		11/21/2007	11/20/2012	PASS	GILES, INC.	HYDRO/CHECK LEVEL		TEST - SUMP
5	83SUMP05	SOUTH OF 400 & 401 CAUSTIC TANKS	CONCRETE BOX	4' x 4' x 4'	11/21/2007	11/20/2012	PASS	GILES, INC.	HYDRO/CHECK LEVEL		TEST - SUMP
6	83SUMP06	AT NON-HAZ PAD	CONCRETE BOX	4' x 4' x 4'	11/21/2007	11/20/2012	PASS	GILES, INC.	HYDRO/CHECK LEVEL		TEST - SUMP
7	83SUMP07	AT BUNDLE CLEANING PAD	FIBERGLASS DRUM	ROUND DRUM	11/21/2007	11/20/2012	PASS	GILES, INC.	HYDRO/CHECK LEVEL		TEST - SUMP
8	83SUMP08	WEST OF API SEPARATOR	CONCRETE BOX	10' X 20' X3'	11/20/2008	11/20/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
9	83SUMP10	SOUTH OF TANK 1208	METAL BOX	6' X 6' X 6'	11/22/2008	11/22/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
10	83SUMP11	NORTH OF TANK 1215	METAL BOX	3' X 3' X 3'	11/24/2008	11/24/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
11	83SUMP13	WEST OF MAIN OFFICE BUILDING (OLD A/C CONDENSATE SUMP)	CONCRETE BOX	CONCRETE CAP	11/24/2008	11/24/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
12	83SUMP14	NW CORNER OF MAIN BUILDING (OLD A/C CONDENSATE SUMP)	CONCRETE BOX	3' X 5' X 3'	11/25/2008	11/25/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL (WATER TO CACTUS BUSH)
13	83SUMP15	TRUCK UNLOADING EAST OF TANK 1201A				2009					TEST - SUMP
14	83SUMP16	SOUTH OF TANK 1201D, CRUDE METER STA.	CONCRETE BOX	3' DIAMETER	11/25/2008	11/25/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		TEST - SUMP
15	83SUMP17	SOUTH AND WEST OF TANK 1201D, PIGGING STATION	CONCRETE BOX	3' DIAMETER		2009					TEST - SUMP
16	83SUMP18	AT RAILROAD LOADING SPUR ALONG HIGHWAY	CONCRETE BOX	6' X 6' X 4'		N/A					(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
17	83SUMP19	SUMP LOCATED NORTH OF TRUCK RACK, COVERED	CONCRETE BOX	36' X 36' X 6'		2009					TEST - SUMP
18	83SUMP20	AT TRUCK LOADING RACK	CONCRETE BOX	3' X 3' X 6'		2009					TEST - SUMP
19	83SUMP21	OLD JET "A" LOADING RACK	CONCRETE BOX	6' X 5' X 4' & 3' X 2' X 2'	11/25/2008	11/25/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) 2 SUMPS, BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
20	83SUMP22	SOUTH OF TANK 1018	METAL BOX	4' X 4' X 8'		2009					TEST - SUMP
21	83SUMP23	AT PROVER MANIFOLD SOUTH AND EAST OF TANK 1201A , RUSSEL STA.	METAL BOX	4' X 4' X 4'		2009					TEST - SUMP
22	83SUMP24	Abandoned Phillips blend area	CONCRETE BOX	6' X 6' X 6'	11/25/2008	11/25/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
23	83SUMP25	Abandoned Phillips blend area	CONCRETE BOX	6' X 6' X 6'	11/25/2008	11/25/2013	PASS	GILES, INC.	HYDRO/CHECK LEVEL		(OUT OF SERVICE) BACK FILL AND CAP PENDING ENVIRONMENTAL APPROVAL
24	83SUMP26	South of 1201D at meters (has electric sump pump in hole)				2009					TEST - SUMP
25	83SUMP27	Sump at spent caustic loading pumps				2009					TEST - SUMP
26	83SUMP28	Inside tank 402 containment				2009					TEST - SUMP
27	83SUMP29	Inside tanks 400 and 410 containment				2009					TEST - SUMP
28	83SUMP30	Pigging station on 8" pipeline				2009					TEST - SUMP
29	83SUMP31	Pigging station on 10" pipeline				2009					TEST - SUMP


A4
3829. 18
83Sump 28
83Sump 29
83Sump 22
T-101
T-105B
T-103B
T-103A
T-102
T-102
T-106A
T-104B
T-104A
T-105A
3Sump 24
83 Sump 21
3Sump 23
T-121
83Sump 20
83 Sump 19
83 Sump 18
STATE HIGHWAY 18
A2
3827. 16


83SUMP07
NEW BUNDL
PAD
83SUMP06
MIN HAZ
PAD
83SUMP08
API WEST
O.O.S.
83SUMP09
P-1235
83SUMP12
P-1233
T-1205
T-1206
T-1204
T-1202
T-1203
T-1214
T-1215
T-1208
T-1209
83SUMP05
83SUMP10
O.O.S.
83SUMP11
METAL
BOX
NAPHTHA
SUMP
83SUMP13
OFFICE WEST
(WATER)
83SUMP14
OFFICE NORTH
(WATER)
3840, 25
83SUMP01
E-436
O.O.S.
83SUMP02
PID BUNDLE
PAD O.O.S.
83SUMP03
CHEMICAL
STORAGE
PAD
T-1201B
T-1201A
83SUMP 17
83SUMP 16
83SUMP 23
83SUMP15

NAVAJO REFINING COMPANY, LLC

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November 6, 2009

FedEx Overnight Delivery

Carl Chavez
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RECEIVED OCD
2009 NOV -9 AM

Re: Navajo Refining Company, L.L.C., Discharge Permit (GW-014) Tank Leak Detection Schedule

Dear Mr. Chavez:

Navajo proposes an alternative to secondary containment for the above ground storage tanks located at the Navajo Lea Refinery located 5 miles south of Lovington, NM. Navajo proposes that we install leak detection probes beneath each tank listed and utilize Praxair's Tracer Tight® technology to inoculate 20% of the tanks each year to ensure complete testing of all tanks within a five year period as required in our Discharge Permit, GW-014.

The enclosed table lists the tanks to be retrofitted and Navajo plans to complete installation of the leak detection systems before December 31, 2013. Also enclosed is information on the Praxair System. Navajo is currently installing the same leak detection system at our Artesia, NM refinery. Navajo and Praxair representatives met with the OCD on August 6, 2008 to present the Tracer Tight® technology and this alternative was submitted with the Navajo Artesia Discharge Permit, GW-028 for consideration. Navajo has begun installation of these systems at the Artesia Refinery and the first round of testing has been completed successfully.

Navajo has installed High Level and High-High Level alarms on each storage tank at the Lovington Refinery to help prevent accidental overfilling of the tanks which could result in a spill. These alarms are monitored from the Lovington Refinery control room 24 hours a day, 365 days per year.

All tanks will be retrofitted with leak detection by December 31, 2013. This schedule extends beyond the standard 5 year permit period. The permit was issued 2 years after the renewal date due the OCD's review of our permit application extending beyond the original date for renewal and Navajo in effect has only 3 years left on the issued permit. Navajo requests approval to install the leak detection system by December 31, 2013

Sincerely,

Johnny Lackey
Environmental Manager

Attachments

Cc (w/attachments): City of Lovington: Mr. Patrick McMahon; Mr. Michael Leighton
214 South Love, Lovington, NM 88260

November 6, 2009

NAVAJO REFINING, LOVINGTON TANK LEAK DETECTION SCHEDULE

Priority 1						
2013						
TANK ID	TYPE OF TANK	NEW/USED	VOLUME (bbl)	CHEMICAL STORED	YEAR BUILT (Tank age)	Last IntegrityTest Date
T-101B	EFR	USED	70,000	Raw Naphtha	1973 (36 yrs)	1995
T-102B	EFR	USED	35,000	Straight Run Gasoline	1973 (36 yrs)	2002
T-1201A	EFR	USED	154,500	Crude Oil	1973 (36 yrs)	2005
T-1201B	EFR	USED	154,500	Crude Oil	1973 (36 yrs)	2008
T-103A	VFR	USED	30,000	Raw Diesel	1973 (36 yrs)	1991
T-103B	VFR	USED	30,000	Raw Diesel	1973 (36 yrs)	1991
T-1204	VFR	USED	43,860	Raw Diesel	1973 (36 yrs)	1991
T-1202	EFR	USED	108,130	Crude Oil	1973 (36 yrs)	2002
T-1214	VFR	USED	20,000	Heavy Slop	1980 (29 yrs)	2006
T-1215	VFR	USED	20,000	Heavy Slop	1980 (29 yrs)	2002
T-1207	IFR	USED	10,800	Light Slop Oil	1973 (36 yrs)	2006
			Priority 2			**Last IntegrityTest Date**
T-102A	EFR	USED	35,000	Raw Kerosene	1973 (36 yrs)	1991
T-1203	EFR	USED	53,800	Atmos Gas Oil	1973 (36 yrs)	2008
T-104A	VFR	USED	15,000	Raw Kerosene	1973 (36 yrs)	1991
T-104B	VFR	USED	15,000	Atmos Gas Oil	1973 (36 yrs)	1991
T-1205	VFR	USED	30,700	Heavy Vacuum Gas Oil	1973 (36 yrs)	2005
T-1206	VFR	USED	97,180	Atmos Gas Oil	1973 (36 yrs)	2002
T-1209	EFR	USED	18,000	Light Slop Oil	1973 (36 yrs)	**Out of Service**
1201C	VFR	New 2005	97,000	Waste Water	1973 (36 yrs)	New 2005
1201D	VFR	USED	97,000	Waste Water	1973 (36 yrs)	2007
T-1208	IFR	USED	5,380	Wastewater	1973 (36 yrs)	2004

PRAXAIR

Print Close window

Tracer Tight® Leak Detection for Aboveground Storage Tanks (AST)

Praxair Services' *Tracer Tight* leak detection technology surpasses all other test methods because of its superior sensitivity and compatibility with site operations.

Related Links

Praxair Services, Inc.

Tracer Tight is a patented leak detection technology, which uses a variety of highly volatile tracer chemicals. The test consists of inoculating the AST with an extremely small amount of tracer chemical.

Probes are installed under and around the tank bottom, which allows the technician to collect soil vapor samples. If there's a leak, the tracer will escape into the soil. Gas chromatography is used to detect tracer at concentrations of 10 parts per trillion. This allows Praxair Services to identify and locate very small leaks. Typically, leaks as small as 1 gallon per day are easily detectable regardless of the size of the tank.

Advantages:

- » Tanks remain in-service during the entire *Tracer Tight* test.
- » Leak detection sensitivity of 1 gallon per day regardless of tank size or geometry.
- » Compatible with any hydrocarbon and virtually any chemical (including all fuel and crude oils)
- » Test any size tank without loss of sensitivity.
- » Not affected by hydrocarbons from previous leaks or spills.

PRAXAIR

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Leak Detection Services

Praxair Services, Inc. is dedicated to making tank and pipeline integrity a beneficial aspect of running your business. That's why we provide a comprehensive suite of accurate and reliable leak detection technologies and services that are designed to fit the needs and budget of your business, and are backed by the best experience and reputation in the industry.

Related Links

Praxair Services, Inc.

Contact us

New Listing From NWGLDE

The *Tracer Tight*® leak detection system is available for a wide range of applications, including above-ground (ASTs) and underground storage tanks (USTs) and buried piping. The *Tracer Tight* system is the most accurate and sensitive leak detection and location technology available, capable of pinpointing leaks to within a few feet, and exceeds U.S. EPA requirements for precision testing as outlined for USTs.

The *SeeperTrace*^{SM} pipeline leak detection service is the walkover integrity assessment service developed by Praxair Services for long-distance pipelines. The *SeeperTrace* service is the only commercially available technology that quickly and cost-effectively locates seeps in pipelines that carry liquids, gases or multi-phase products. A seep as small as 1 gallon per day can be detected – with no service interruption or excavation required. Pipeline can be certified to 0.1 gph if necessary.

The *HeliTec*® leak detection service, quickly locates leaks in buried pipelines as well as plant piping and systems checks. The method uses a helium tracer in a gas, usually nitrogen, and a sensitive helium detector. The normal fluid is removed from the line, the line is pressurized with the test gas, then the helium detector is used to sense the presence of helium in the air above the line.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, November 10, 2009 7:03 AM
To: 'Moore, Darrell'; 'Lackey, Johnny'
Cc: 'mleighton@lovington-nm.org'; 'hsncpbm@leaco.net'; 'kurtporter@valornet.com'
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Reponse to OCD October 22, 2009 E-mail (correspondence stemming from October 8, 2009 Meeting)

Darrell and Johnny:

The New Mexico Oil Conservation Division (OCD) is in receipt of your submittal to the above subject correspondence.

Please make sure the City of Lovington receives the same submittals that you are providing the OCD. I did not see the City of Lovington copied in your enclosed letters.

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
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, November 06, 2009 7:19 AM
To: 'Moore, Darrell'
Cc: 'mleighton@lovington-nm.org'; 'hsncpbm@leaco.net'; 'kurtporter@valornet.com'; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD; 'Lackey, Johnny'
Subject: Navajo Refining Company- Lovington Refinery (GW-14) November 6 Response Deadline for Agency October 22, 2009 Post-Meeting (Oct. 8, 2009) Communique

Darrell:

Re: Request to amended November 6, 2009 Deadline to November 11, 2009

Denied.

I believe you are referring to the October 22, 2009, Agency communiqué from the October 8, 2009 post-meeting (meeting) with submittal deadlines that Navajo Refining Company (NRC) requested one date of November 6, 2009 (today). The OCD had approved this date.

In response to NRC's reason(s) for requesting another revision to the deadline above, the OCD does not recommend that you meet with the City to discuss your responses to the October 22, 2009 communiqué. NRC should not be trying to get approval from the City for the discharge permit items. As discussed during the October 8, 2009 meeting, the agencies must respond in unison, and meeting with one agency exclusive of the other, only promotes inconsistencies between agencies, delays, confusion, etc. and problems as we are now encountering by NRC wanting to wait to meet with one agency resulting in missed deadlines. This is not acceptable.

The Agencies (City and OCD) have developed a review process (process) for the Lovington Refinery. Whenever NRC submits discharge permit related information that warrants an agency response (i.e., reports, discharge permit meeting responses, etc.), the process allows a joint review where the City has 14 days to respond to any OCD draft response correspondence shared between the Agencies on NRC submittals.

The OCD is currently working on a draft letter requiring more work to document contaminant hydrogeology, add monitoring, address public health, etc. and to assess any threats to the City's Well Head Protection Area (WHPA) and/or water supply wells.

Please mail your responses from the October 22, 2009 post-meeting communique to the City of Lovington and OCD by the agreed upon date of November 6, 2009 before midnight tonight. The agencies must keep an administrative record of all dates and times associated with this facility due to the urgent nature of environmental issues that it is working to address, and which has been incorporated into the discharge permit. NRC should consider the seriousness of the situation at this facility and strive to provide quality submittals, reports, monitoring, documents that will demonstrate the seriousness which it also regards the situation at this facility. The agencies look forward to receiving quality work from NRC and moving forward cooperatively to address discharge permit, and the quality of your submittals in our records will demonstrate NRC's commitment to protect the City's Well Head Protection Area and the environment.

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
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Thursday, November 05, 2009 3:39 PM
To: Chavez, Carl J, EMNRD
Subject: November 6 Response

Carl

The response that we had agreed to get to you by November 6 is running up against some barriers. We had told the City of Lovington (Pat McMahon) that we would go over this with him before we submitted it. Pat has been out of town so we haven't been able to do that. Further, we are just finishing up the drafting of all the figures and maps and if we submit it tomorrow we wont be able to QA/QC it to make sure we've covered ALL the concerns that you have.

We would like an extension to November 11, 2009 (next Wednesday) so we can go over this with the City of Lovington and QA/QC the report. We are meeting with the City Monday. Is that agreeable?

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, October 22, 2009 8:24 AM
To: 'Moore, Darrell'; Lackey, Johnny
Cc: mleighton@lovington-nm.org; 'hsncpbm@leaco.net'; Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit*** Post October 8, 2009 Meeting Minutes with Action Items ***

Gentlemen:

Re: October 8, 2009 Discharge Permit Meeting in Santa Fe

At the conclusion of the meeting, the OCD indicated that it would send out two communiqués: 1) documentation of post meeting events and/or action items from the meeting; and 2) a letter addressing the Section 21(A) requirement(s) and related discharge permit sections from the meeting in consideration of any applicable and related documents submitted after the meeting to consider. The Permittee (Navajo Refining Company) since pay special attention to the "***Permit Violation***" designations listed below, which serves as an indicator of the Permittees ability to comply with the OCD Discharge Permit. In addition, red text outlines dates for submittals where the deadline(s) was missed and/or a brief summary of the concern and a path forward for resolution between the agencies and the permittee.

Please consider this e-mail message to be the first communiqué and the letter on the Environmental Status Report from the agencies will soon follow.

This e-mail communiqué is to document the meeting events and post meeting action items (see agencies comments, recommendations and/or requirements in red text below) that the permittee and the agencies (City of Lovington and OCD) need to move forward on.

Attendees:

Navajo Refining Company: Mr. Johnny Lackey, Mr. Darrell Moore, Mr. Steve Terry, and Mr. David Boyer (Safety & Environmental Solutions, Inc.)
City of Lovington: Mr. Michael Leighton (City Manager), Mr. Pat McMahon (City Attorney), Mr. Kurt Porter (WWTP Super Intendent), and Mr. Wyatt Duncan (Inspector)
OCD: Mr. Daniel Sanchez (Compliance & Enforcement Manager), Mr. Glenn von Gonten (Acting Environmental Bureau Chief), and Mr. Carl Chavez (Environmental Bureau Environmental Engineer)

1:30 **Introductions- Welcome**

1:40 **21. Additional Site Specific Conditions: REPORT/PRESENTATION UPDATE ON CONTAMINANT HYDROGEOLOGY- David Boyer and Refinery Representatives.**

A. **Environmental Status Report:** Presentation by refinery representatives at the end of discharge permit item. The permittee distributed a report entitled, "Report of June 2009 Semi-Annual Groundwater Monitoring" (Report) dated October 8, 2009 to address the Section 21(A) discharge permit requirement(s). Mr. David Boyer (Safety & Environmental Solutions, Inc.) discussed the report with the assistance of refinery personnel at the meeting. ***Permit Violation.***

The permittee failed to address the minimum requirements specified in the discharge permit for the report or presentation. The agencies will send a letter on this and other applicable sections of the discharge permit with a submittal date to satisfy the report and/or presentation requirement under the discharge permit. The agencies response during the meeting was that the report and presentation fell short of what the permit had requested, but a follow-up letter should help to clarify what is needed moving forward.

B. **New Full-Time Automated Free-Product Recovery System:** PSH Recovery Wells were to be installed within 6 months of permit issuance (July 12, 2009) if product thickness is greater than 0.5 ft. *Not completed because no PSHs were present or detected after deepening MWs. Agencies suspect that there may be a*

plume(s) present, but because monitoring stopped after the water table dropped, and new screens are positioned at the water table, the presence and or lack thereof is presently not known.

C. **Records:** The owner/operator shall store all discharge permit related records and documents at the refine y and make them available to the agencies (City of Lovington and OCD) upon request. Has this been done? I could not access records during my inspections in the past..... *The permittee confirmed that all Lovington Refinery records had been moved from the Artesia Refinery to the Lovington Refinery. Johnny Lackey ask ed if electronic documents could be printed to satisfy the records requests from the agencie s were ok with that too as long as we receive the information requested in a timely manner.*

1:40 **Section 9. Above Ground Tanks:** The owner/operator shall retrofit all existing tanks before discharge permit renewal or within a proposed schedule approved by the OCD within 3 months of permit issuance (April 12, 2009). The owner/operator shall submit a spreadsheet or table identifying all tanks with a work schedule to address this provision (Tank ID#, type of tank, new/used, volume, chemical stored, tank age, last integrity test date, planned ret ofit date and/or construction date, etc.) to the OCD for approval..... A work schedule with a phased approach extendin beyond the standard 5-year permit period may be approved by the OCD if submitted within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal witl in 30 days of receipt. ***Permit Violation.*** *Provide alternative work schedule to OCD before COB on October 30, 2009 o satisfy this requirement.*

The permittee claimed that the alternative work schedule approach was submitted with the Artesia Refinery (GW-028) submittal and it did not send it to the agency on or before April 12, 2009. The permittee indicated that it had installe d high level alarms to also address this issue.

OCD requested that the permittee resend the table with the necessary details for agency review and determination of approval or denial. ***Please submit this to the agencies within the next two weeks or by November 3, 2009.*** *A ny non-submittal shall default to the April 12, 2009 date, which requires the permittee to retrofit all above ground tanks (exception tanks containing inert contents) by the permit expiration date.*

1:50 **Section 11. Below-Grade Tanks/Sumps and Pits/Ponds:**

Below-Grade Tanks & Sumps: The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule proposed in a spreadsheet or table approv ed by the OCD within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OC D does not respond to a submittal within 30 days of receipt. ***Permit Violation.*** *Provide alternative work schedule to OCD before COB on October 30, 2009 to satisfy this requirement.*

The permittee indicated that it did not have any below-grade tanks so it did not send it to the agencies on or before Apri 12, 2009. Agencies indicated that there are sumps and requested that the permittee resend the table with the necessary details for agencies review and determination of approval or denial. ***Please submit this to the agencie s within the next two weeks or by November 3, 2009.*** *Any non-submittal shall default to the April 12, 2009 date, which requires the permittee to retrofit by the permit expiration date.*

A. **Pits and Ponds:** The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule submitted to the OCD and approved within 3 months of permit issuance (April 12, 2009). A spreadsheet or table of all pits and ponds with schedule for completion shall be included in the submittal and OCD shall approve or deny this submittal within 30 days or receipt. The table(s) and work schedule(s) shall be considered approved if the OCD does not respond within 3(days of receipt.

The permittee indicated that it did not have any pits or ponds so it did not send it to the agencies on or before April 12, 2009. Consequently, no submittal is expected for pits or ponds at this time. The agencies referred to a historical map with a diagram including a pond at the facility, but the refinery indicated that there was never any pond at the facility. Therefore, no submittal is required to address the retrofitting of pits or ponds at the facility.

2:00 **Section 13. Underground Process/Wastewater Lines:**

A. The owner/operator shall provide a comprehensive spreadsheet/table listing of all underground process/wastewater pipelines within 3 months of permit issuance (April 12, 2009) to establish the basis for compliance with this provision. Have MITs to date been successful?

Satisfactory.

2:10 **Section 14. Class V Wells:** Class V wells shall be permitted by the NMED if sanitary wastewater is injected into a leach field without processing, treatment or disposal within an OCD treatment system at the facility. Status?

Sanitary sewer project permitted through NMED and is almost complete. Ok.

2:20 **Section 16. Spill Reporting:** The owner/operator shall notify the City of Lovington immediately of any discharge, leak, spill or release that poses an imminent threat to the City's fresh water supply to allow the City to take corrective action(s) to prevent contamination from entering the freshwater gathering system. Status?

Satisfactory. Permittee is aware of this requirement and will actively remove contaminated soils related to spills/releases in addition to removing fluids at surface at the facility as part of its corrective action response. Notification will occur when this section applies. Ok.

2:30 **Section 17. OCD Inspections:**

i. The owner/operator shall submit an updated site map(s) showing the current status of all recovery wells, monitor wells, domestic wells (City of Lovington water supply, irrigation wells, and pertinent features (i.e., new refinery units, remediation systems, new tanks, expansions, effluent pipelines(s), centralized chemical storage location, oil and gas transmission lines within and proximal to the property and ground water contamination, including storm water basins (detention ponds) if present before June 30, 2009. ***Permit Violation.*** *Provide map displaying all wells including domestic wells (City of Lovington water supply wells, irrigation wells, and pertinent features, etc.) to agencies before COB on November 6, 2009 to satisfy this requirement.*

ii. The owner/operator shall construct a second impermeable pad area at a centralize chemical storage area, which will serve to separate incompatible chemicals by March 31, 2009. A drawing(s) shall be submitted that illustrates a new centralized chemical storage location in advance of construction activities. *Completed, but OCD does not recall receiving the diagram fro the second impermeable pad? Please submit to agencies before COB on November 6, 2009.*

iii. The owner/operator shall provide proof of permit application, and correspondence with the NMED GWQB for septic system(s) before June 30, 2009. The septic system(s) shall be installed by September 30, 2009. Class V wells that inject domestic waste that is not treated at the refinery must be permitted by the NMED (see Section 14). *Satisfactorily addressed in Section 16 above.*

iv. Have all spills or releases of chemicals been cleaned up? Will discuss C-141s later in Section 21A presentation.....*C-141s were not attached to the report addressing Section 21A, nor discussed by David Boyer in his Section 21A presentation. The permittee later submitted C-141 final reports (which it indicated had already been sent to the OCD) to the agencies. The agencies are currently reviewing the C-141s as part of its overall review of the Section 21A Report and will send a letter addressing the environmental status at the facility soon. The agencies will likely require the C-141s be included in the Section 21A Report.*

vi. The owner/operator shall install MWs with 15 foot screens across the water table down gradient of all releases where contaminated soils/sediments are not fully excavated and associated with C-141 reporting (See Attachment 2 of discharge permit). Has this been done? Will discuss C-141s later in Section 21A presentation..... ***Permit Violation***. *No MWs were installed downgradient from C-141 release locations to satisfy this permit condition. The agencies will be responding soon in correspondence related to the Section 21A requirements. Permittee did not install MWs downgradient from C-141 spill/release locations because they did not detect free product in wells after repositioning well screens. The agencies did not agree with this and is still very concerned that dissolved phase contaminants may be moving downgradient toward the City of Lovington Well Field.*

vii. New MWs constructed and monitored (See Sections 16v. and 20) shall be installed within 3 months of permit issuance (April 12, 2009). Additional downgradient MWs are required at locations down gradient from suspected refinery point source areas (See Attachment 2 C-141 Forms) especially the 10/25/2007 pipeline release discovery) and upgradient from any City of Lovington drinking water supply well in order to safeguard the municipal water supply system. PSH shall be reassessed and PSH wells shall be installed within 6 months of permit issuance (July 12, 2009) where product thickness is at or greater than 0.5 ft.. Recovery wells may be required anywhere GW contamination is detected upgradient from a water supply well. The annual monitoring report shall contain a conclusions section with recommendations for any additional corrective actions including additional MW locations. Based on the contaminant hydrogeology from environmental sampling and in the annual report (See Section 20). Has the above been done? Will discuss C-141s later in Section 21A presentation..... ***Permit Violation***. *No MWs were installed downgradient from C-141 release locations to satisfy this permit condition. The agencies will be responding soon in*

correspondence related to the Section 21A requirements. Permittee did not install MWs downgradient from C-141 spill/release locations because they did not detect free product in wells after repositioning well screens. The agencies did not agree with this and is still very concerned that dissolved phase contaminants may be moving downgradient toward the City of Lovington Well Field.

viii. Major releases including fires, explosions, etc. Have any occurred? *Satisfactory. Submitted one C-141 associated with fire at the facility and the fire was quickly put out and corrective actions were taken to correct the cause of the fire. Agencies discussed why reporting fires on C-141s improves overall public and worker safety at the facility.*

x. The owner/operator shall maintain all refinery records including this discharge permit at the facility and readily available during inspections, site activities, etc. All records shall be made available to OCD inspectors upon request (See Section 21C). *Permittee indicated that all facility records are at physically within the Lovington Refinery Facility and records will be made available upon request to the agencies for inspections, etc.*

3:00 **Section 18. Storm Water:** The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate chemical contact from non-contact storm water drainage areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified including any oil sheen in any non-contact storm water run-off drainage area. Have any releases occurred of this type since the permit was issued? NMED is planning to conduct a storm water inspection this year and will evaluate proper controls and possibly the recent request by the refinery to remove sumps (controls) from the facility. Refinery supposed to present a diagrams of sumps with any controls that exist to address adequate controls for releases to non-contact areas of the refinery property....

While not declared a violation, this could potentially be a future violation to the discharge permit if inadequate controls, i.e., drains, sumps, secondary containment,...) around areas subject to major releases are not adequately addressed by the permittee. The permittee did not present a diagram of sumps with an evaluation of existing controls to address Section 18 controls, which was included on the agenda and had been verbally discussed with the permittee on the phone. ***Please submit the requested diagram with engineering evaluation of controls at the facility by COB November 6, 2009 with any recommended locations for controls based on the removal of sumps at the facility and an engineering evaluation of adequate controls to prevent or minimize releases into storm water areas at high risk (areas with the potential for major release) at the facility. The permittee should also assess drainage near City of Lovington water supply wells located on the facility in the evaluation, since the facility resides within the City's Well Head Protection Area.***

Agencies discussed the concept of spills/releases in storm water areas at the facility within the bermed area and the importance of controls to minimize impacts and storm water violations. The NMED inspection scheduled for October 7, 2009 was not completed, but may be completed before the end of the year according to Mr. Richard Powell (NMED- SWQB).

3:15 TEN MINUTE BREAK********BREAK**********BREAK**********BREAK**********

3:25 **Section 20. Surface Water/ Ground Water/ Vadose Zone Monitoring/Remediation/Abatement:**

A. **GW & Treatment System Monitoring:** The owner/operator shall sample, analyze and report GW contamination to the City of Lovington and OCD in accordance with applicable federal, state, and local laws or ordinances. Were the MWs listed in Table 20A sampled and analyzed? *Yes.* Any PSHs? *No PSHs were detected in wells where screens were positioned at the water table.* Quick observations or defer to presentation on Section 21A later..... *Permittee indicated that the soil vapor extraction (SVE) remediation system was shut-off after 3 years of operations as the PSH present at the facility was remediated. Looking back at records indicate that the SVE system was shut-off prematurely, since PSHs were still present several years after the remedial system was shut-down. The agencies are currently reviewing the Section 21A report, etc. and will be responding soon. David Boyer had indicated during auger drilling at the former hot spot, the drill mud became saturated with hydrocarbons (black oil at 5 ft. below ground level (bgl) and as deep as 20 ft. bgl with heavy oil), but the static water level is at about 105 ft. bgl. Mr. Boyer indicated that no core samples were taken to characterize the condition of sediments during the work. There appears to be source of contamination from 5 to 20 ft. bgl near the source and since the auger drilling method was used, any PSH zones encountered in the borehole down to the water table may not have been detected during the investigation. The agencies think that PSH is hung up in sediment above the water table and that screens at the water table are not detecting contamination due to the drop in the water table elevation. Consequently, contaminant hydrogeologic information is incomplete and more work will be forthcoming in agency communiqué no. 2.*

B. **GW & Treatment System Annual Monitoring Event:** Annual report shall be submitted to the OCD by April 15th of each year. Submittal on 4/15/09, but letter indicated MWs were still in process of being deepened. A status report is due on 10/12/2009 and water quality information will be available by then. Will this report or presentation on 21A later address the items in 20B? Defer to presentation on Section 21A presentation later..... *Report ("Report of June 2009 Semi-Annual Groundwater Monitoring" October 8, 2009 presented by David Boyer did include water quality information after the well screens were readjusted appears to be submitted to follow-up from the submitted annual report , but the report seemed to be used by David Boyer to address Section 21A, which it did not fully address.*

3:30 **Section 22. Annual Summary Report:** This report is due by April 15th of each year? Did the operator address the report contents of this section in its April 15, 2009 submittal? *Yes, an annual report was submitted that indicated sampling was in progress from work conducted by the permittee and presented water quality results in the "Report of June 2009 Semi-Annual Groundwater Monitoring" (October 8, 2009) . The agencies will address this section in future correspondence on the environmental status of the facility.* OCD is thinking the presentation today and the Environmental Status Report contains all of the information requested in the discharge permit related to the GW & Treatment System Annual Monitoring Report (Section 20B) Annual Summary Report (Section 22), since there were minimum requirements for diagrams, contaminant hydrogeologic information, etc. required for the Environmental Status Report and information was not available at the time the Operator submitted the Annual Report attempting to address annual report items on 4/15/2009? Hopefully the Environmental Status Report and presentation today address the concerns of the permit and the agencies will need to evaluate the submittal to see if we are indeed now up to date on annual reporting and the objective of the environmental status report and presentation today.... The Environmental Status Report and presentation was not due until 10/12/09..... *The permittee submitted an environmental report already mentioned above.*

F. Summary of discovery of any new vadose zone and/or GW contamination or threat to the City of Lovington Well Head Protection Area. This should include recommendations with a schedule for any further investigation, monitoring and remediation. *The presentation by David Boyer indicted from 5 to about 20 ft. below ground level auger mud became saturated with hydrocarbons. Since core samples to characterize the depth and nature of the hydrocarbons down to the water table, there may be a zone(s) where hydrocarbons are present above the noticeable drop in water table elevation throughout the years. The agencies are working to assist the permittee with contaminant hydrogeology at the facility to characterize contaminant hydrogeology and assess any risks to public health.*

G. Summary and copies of all City of Lovington and OCD activity, i.e., meetings (this meeting and future ones....), inspections, etc. Note OCD is currently under travel restrictions due to budget issues, but the City can conduct inspections under this permit at any time, and if so, the OCD would like to be copied on inspections, meetings, communiqués between the City and Operator in order for communications sake. I'm sure operator likes to be addressed in a single correspondence from the agencies rather than the agencies sending communiqués separately and if the OCD does not know what the City is up to and vise versa, a communication problem occurs, confusion, and we head down different paths..... Agreement on this? I think of us as a team communicating with one another in order to achieve our objectives..... The operator benefits by a clean run operation without spills, releases, etc. that cost a lot of time and money to address when we can help prevent pollution and conserve resources.....

3:45 **Section 24. Closure & Financial Assurance (20.6.2.3107A(11) NMAC):** The owner/operator shall submit a closure plan and financial assurance cost estimate for post cleanup monitoring by September 30, 2009. Operator recently requested an extension until November 30, 2009 to submit a closure plan with a total cost estimate that the OCD evaluate to determine a bond or financial assurance amount requirement from the operator. Today's presentation will assist the operator and environmental consultants with the total cost estimate. Discussion.....

4:00 **21. Additional Site Specific Conditions: PRESENTATION UPDATE ON CONTAMINANT HYDROGEOLOGY- Refinery Representatives**

D. **Environmental Status Report:** Presentation by refinery representatives at the end of discharge permit item discussion later.....

E. **New Full-Time Automated Free-Product Recovery System:** PSH Recovery Wells were to be installed within 6 months of permit issuance (July 12, 2009) if product thickness is greater than 0.5 ft. David Boyer's presentation and report indicated free product was not present in wells with deepened screens and other wells that were sampled.

F. **Records:** The owner/operator shall store all discharge permit related records and documents at the refinery and make them available to the agencies (City of Lovington and OCD) upon request. Has this been done? I could not access records during my inspections in the past..... *Permittee indicated that has been completed. Ok.*

4:45 **City of Lovington Discussion of any concerns, etc.**

The City needs at least 72 hours advanced notifications to be on-site to witness discharge permit related activities.

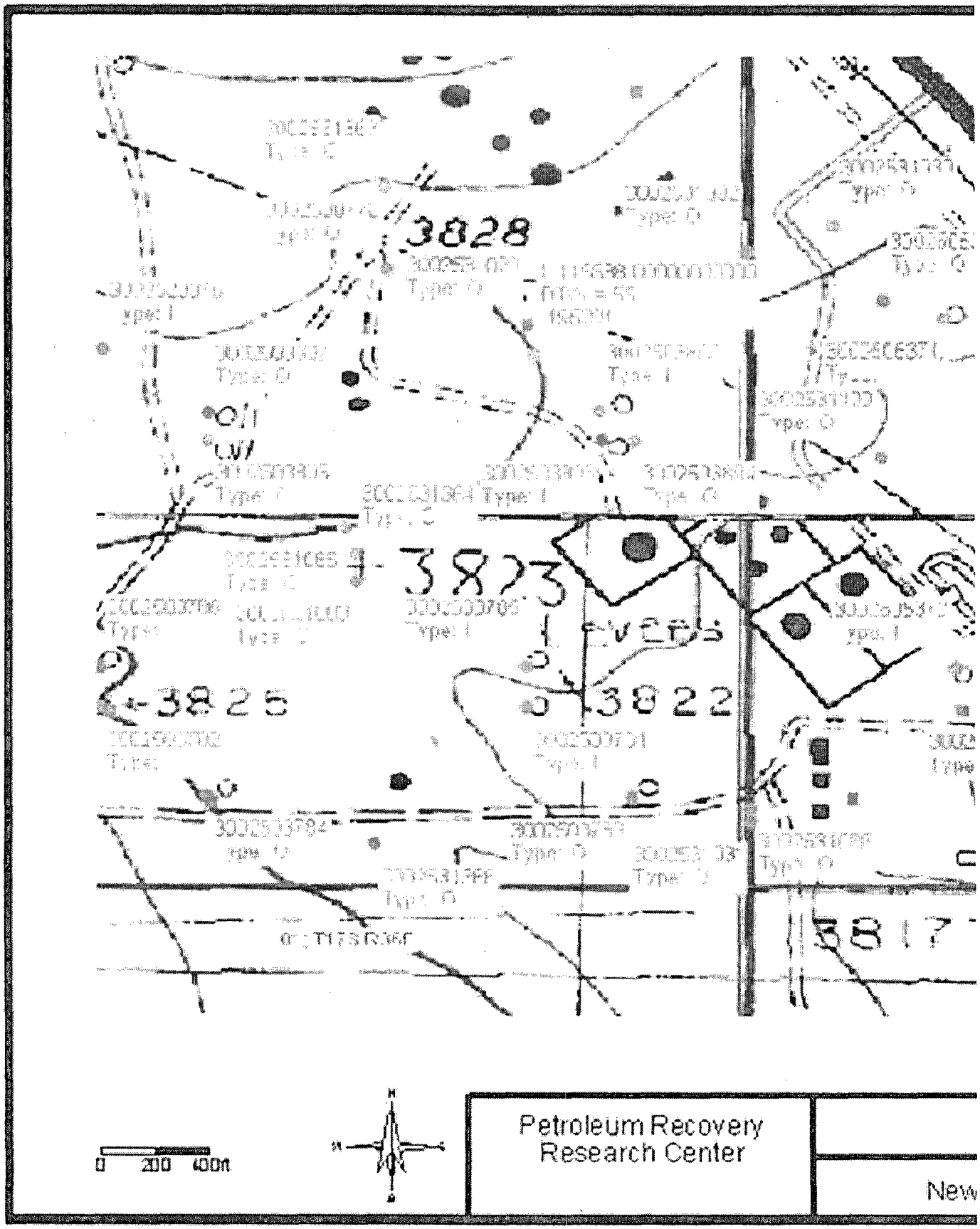
The City is the OCD's partner (agencies) in administering the OCD Discharge Permit and should be regarded as an agent of the OCD with the ability to conduct inspections (announced or unannounced) at this refinery.

The agencies also requested that the permittee not proceed with certain discharge permit applicable activities identified during the meeting until the agencies could issue the first communiqué, because the agencies are working to communicate together in one correspondence to convey its requirements to the permittee for response. In addition, the agencies should both be copied by the permittee on all refinery activities under the discharge permit and correspondences to ensure a uniformed approach to administering the discharge permit.

City may send letters to oil and gas operators in their WHPA to alert them of their goals and vision to protect the City's drinking water. The City hopes that oil and gas operators will respond by conducting mechanical integrity testing of the pipeline, assess wells for corrosion and work to ensure the WHPA is protected from oil and gas activities. The permittee will work on the refinery end to be responsive to any environmental issues from its facility and work with the City to protect the WHPA.

4:50 **Refinery issues, concerns, etc.**

Based on the additional work it completed, they don't think there is contamination in the ground water at past levels. For example, free-product that was once present at MW-1 is no longer there. Thinks chlorides at MW-13 may be associated with recently plugged and abandoned (~4 months ago) Chevron Class II SWD Wells on refinery property (see map w/ oil & gas wells (API Nos. provided below). The permittee wanted to know the API# in order to go to OCD Online and query for any violations or environmental MIT problems associated with suspected wells mentioned above because they were recently plugged and abandoned. OCD provides the maps below to assist the permittee with further investigation of oil and gas wells in the vicinity of the refinery.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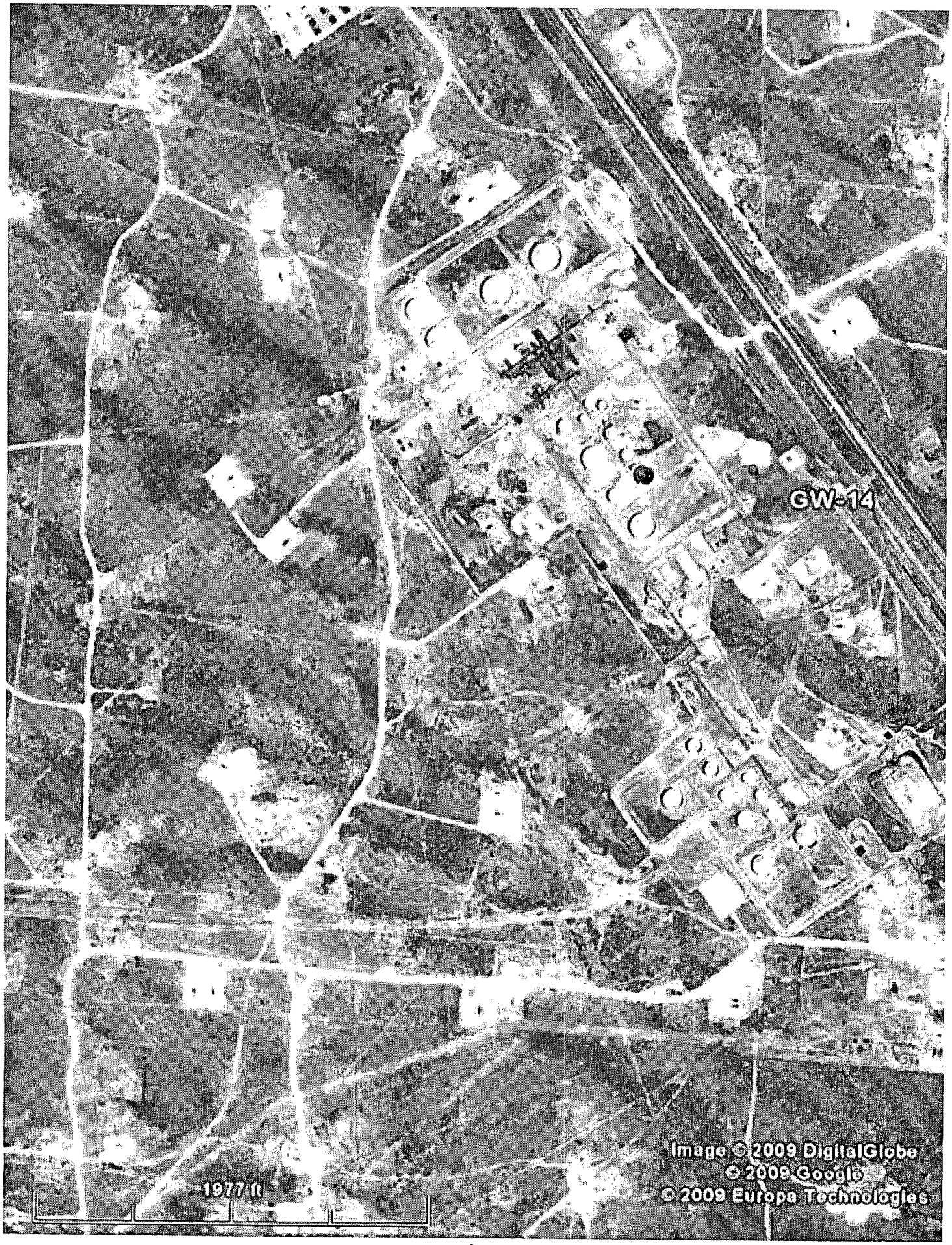

GW-14
Image © 2009 DigitalGlobe
© 2009 Google
© 2009 Europa Technologies

- 5:00 **Miscellaneous Issues**

The agencies are concerned that there is not enough known about the contaminant hydrogeology beneath the facility to determine if there is a dissolved phase plume(s) heading downgradient toward their fresh water well field and within their Well Head Protection Area. The agencies are working on the Section 21A correspondence to the permittee to assist it with further investigation and monitoring of ground water from ground water contamination at the facility.

Please contact me if you have questions or need further assistance. Thanks in advance for your cooperation in resolution of the above matters.

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
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

Subject:	Navajo Refining Company- Lovington Refinery (GW-014) Discharge Permit & Communication Meeting
Location:	OCD Conference Room 3rd Floor: Wendell Chino Bldg. 1220 South St. Francis Dr., Santa Fe 87505
Start:	Thu 10/8/2009 1:30 PM
End:	Thu 10/8/2009 5:00 PM
Recurrence:	(none)
Meeting Status:	Meeting organizer
Organizer:	Chavez, Carl J, EMNRD
Required Attendees:	VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD; mleighton@lovington-nm.org; Patrick B. McMahon; Moore, Darrell; Lackey, Johnny; Powell, Richard, NMENV
Optional Attendees:	Terry, Steve; kurtporter@valornet.com

Gentlemen:

Please find below the final agenda for next Thursday's Discharge Permit and Communication Meeting in Santa Fe.

AGENDA

Discharge Permit (GW-014)

Note: A projector w/ OCD Laptop Computer Microsoft Compatible (save power point presentation on USB drive in 1993-97 Format just in case). Computer will be website accessible, but only from an OCD computer plugged into the DSL drive in case you want to place and access your presentation online.

Main Basis for Meeting: Section 21. A. Environmental Status Report or Presentation (Due: 10/12/2009) Note: Presentation by refinery representative(s) on the contaminant hydrogeology issues in this section.

1:30 **Introductions**

1:40 **Section 9. Above Ground Tanks:** The owner/operator shall retrofit all existing tanks before discharge permit renewal or within a proposed schedule approved by the OCD within 3 months of permit issuance (April 12, 2009). The owner/operator shall submit a spreadsheet or table identifying all tanks with a work schedule to address this provision (Tank ID#, type of tank, new/used, volume, chemical stored, tank age, last integrity test date, planned retrofit date and/or construction date, etc.) to the OCD for approval..... A work schedule with a phased approach extending beyond the standard 5-year permit period may be approved by the OCD if submitted within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal within 30 days of receipt.

1:50 **Section 11. Below-Grade Tanks/Sumps and Pits/Ponds:**

A. **Below-Grade Tanks & Sumps:** The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule proposed in a spreadsheet or table approved by the OCD within 3 months of permit issuance (April 12, 2009). The table(s) will be considered approved if the OCD does not respond to a submittal within 30 days of receipt.

B. **Pits and Ponds:** The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule submitted to the OCD and approved within 3 months of permit issuance (April 12, 2009). A spreadsheet or table of all pits and ponds with schedule for completion shall be included in the submittal and OCD shall approve or deny this submittal within 30 days or receipt. The table(s) and work schedule(s) shall be considered approved if the OCD does not respond within 30 days of receipt.

2:00 **Section 13. Underground Process/Wastewater Lines:**

A. The owner/operator shall provide a comprehensive spreadsheet/table listing of all underground process/wastewater pipelines within 3 months of permit issuance (April 12, 2009) to establish the basis for compliance with this provision. Have MITs to date been successful?

2:10 **Section 14. Class V Wells:** Class V wells shall be permitted by the NMED if sanitary wastewater is injected into a leach field without processing, treatment or disposal within an OCD treatment system at the facility. Status?

2:20 **Section 16. Spill Reporting:** The owner/operator shall notify the City of Lovington immediately of any discharge, leak, spill or release that poses an imminent threat to the City's fresh water supply to allow the City to take corrective action(s) to prevent contamination from entering the freshwater gathering system. Status?

2:30 **Section 17. OCD Inspections:**

i. The owner/operator shall submit an updated site map(s) showing the current status of all recovery wells, monitor wells, domestic wells (City of Lovington water supply, irrigation wells, and pertinent features (i.e., new refinery units, remediation systems, new tanks, expansions, effluent pipelines(s), centralized chemical storage location, oil and gas transmission lines within and proximal to the property and ground water contamination, including storm water basins (detention ponds) if present) before June 30, 2009.

ii. The owner/operator shall construct a second impermeable pad area at a centralize chemical storage area, which will serve to separate incompatible chemicals by March 31, 2009. A drawing(s) shall be submitted that illustrates a new centralized chemical storage location in advance of construction activities.

iii. The owner/operator shall provide proof of permit application, and correspondence with the NMED GWQB for septic system(s) before June 30, 2009. The septic system(s) shall be installed by September 30, 2009. Class V wells that inject domestic waste that is not treated at the refinery must be permitted by the NMED (see Section 14).

iv. Have all spills or releases of chemicals been cleaned up? Will discuss C-141s later in Section 21A presentation.....

vi. The owner/operator shall install MWs with 15 foot screens across the water table down gradient of all releases where contaminated soils/sediments are not fully excavated and associated with C-141 reporting (See Attachment 2). Has this been done? Will discuss C-141s later in Section 21A presentation.....

vii. New MWs constructed and monitored (See Sections 16v. and 20) shall be installed within 3 months of permit issuance (April 12, 2009). Additional downgradient MWs are required at locations down gradient from suspected refinery point source areas (See Attachment 2 C-141 Forms) especially the 10/25/2007 pipeline release discovery) and upgradient from any City of Lovington drinking water supply well in order to safeguard the municipal water supply system. PSH shall be reassessed and PSH wells shall be installed within 6 months of permit issuance (July 12, 2009) where product thickness is at or greater than 0.5 ft.. Recovery wells may be required anywhere GW contamination is detected upgradient from a water supply well. The annual monitoring report shall contain a conclusions section with recommendations for any additional corrective actions including additional MW locations. Based on the contaminant hydrogeology from environmental sampling and in the annual report (See Section 20). Has the above been done? Will discuss C-141s later in Section 21A presentation.....

viii. Major releases including fires, explosions, etc. Have any occurred?

x. The owner/operator shall maintain all refinery records including this discharge permit at the facility and readily available during inspections, site activities, etc. All records shall be made available to OCD inspectors upon request (See Section 21C).

3:00 **Section 18. Storm Water:** The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate chemical contact from non-contact storm water drainage areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified including any oil sheen in any non-contact storm water run-off drainage area. Have any releases occurred of this type since the permit was issued? NMED is planning to conduct a storm water inspection this year and will evaluate proper controls and possibly the recent request by the refinery to remove sumps (controls) from the facility. Refinery supposed to present a diagrams of sumps with any controls that exist to address adequate controls for releases to non-contact areas of the refinery property....

3:15 TEN MINUTE BREAK********BREAK**********BREAK**********BREAK**********

3:25 **Section 20. Surface Water/ Ground Water/ Vadose Zone Monitoring/Remediation/Abatement:**

A. **GW & Treatment System Montoring:** The owner/operator shall sample, analyze and report GW contamination to the City of Lovington and OCD in accordance with applicable federal, state, and local laws or ordinances. Were the MWs listed in Table 20A sampled and analyzed? Any PSHs? Quick observations or defer to presentation on Section 21A later.....

B. **GW & Treatment System Annual Monitoring Event:** Annual report shall be submitted to the OCD by April 15th of each year. Submittal on 4/15/09, but letter indicated MWs were still in process of being deepened. A status report is due on 10/12/2009 and will make available by then. Will this report or presentation on 21A later address the items in 20B? Defer to presentation on Section 21A presentation later.....

3:30 **Section 22. Annual Summary Report:** This report is due by April 15th of each year? Did the operator address the report contents of this section in its April 15, 2009 submittal? OCD is thinking the presentation today and the Environmental Status Report contains all of the information requested in the discharge permit related to the GW & Treatment System Annual Monitoring Report (Section 20B) Annual Summary Report (Section 22), since there were minimum requirements for diagrams, contaminant hydrogeologic information, etc. required for the Environmental Status Report and information was not available at the time the Operator submitted the Annual Report attempting to address annual report items on 4/15/2009? Hopefully the Environmental Status Report and presentation today address the concerns of the permit and the agencies will need to evaluate the submittal to see if we are indeed now up to date on annual reporting and the objective of the environmental status report and presentation today.... The Environmental Status Report and presentation was not due until 10/12/09.....

F. Summary of discovery of any new vadose zone and/or GW contamination or threat to the City of Lovington Well Head Protection Area. This should include recommendations with a schedule for any further investigation, monitoring and remediation.

G. Summary and copies of all City of Lovington and OCD activity, i.e., meetings (this meeting and future ones....), inspections, etc. Note OCD is currently under travel restrictions due to budget issues, but the City can conduct inspections under this permit at any time, and if so, the OCD would like to be copied on inspections, meetings, communiqués between the City and Operator in order for communications sake. I'm sure operator likes to be addressed in a single correspondence from the agencies rather than the agencies sending communiqués separately and if the OCD does not know what the City is up to and vise versa, a communication problem occurs, confusion, and we head down different paths..... Agreement on this? I think of us as a team communicating with one another in order to achieve our objectives..... The operator benefits by a clean run operation without spills, releases, etc. that cost a lot of time and money to address when we can help prevent pollution and conserve resources.....

3:45 **Section 24. Closure & Financial Assurance (20.6.2.3107A(11) NMAC):** The owner/operator shall submit a closure plan and financial assurance cost estimate for post cleanup monitoring by September 30, 2009. Operator recently requested an extension until November 30, 2009 to submit a closure plan with a total cost estimate that the OCD evaluate to determine a bond or financial assurance amount requirement from the operator. Today's presentation will assist the operator and environmental consultants with the total cost estimate. Discussion.....

4:00 **21. Additional Site Specific Conditions: PRESENTATION UPDATE ON CONTAMINANT HYDROGEOLOGY- Refinery Rep(s).**

A. **Environmental Status Report:** Presentation by refinery representatives at the end of discharge permit item discussion later.....
B. **New Full-Time Automated Free-Product Recovery System:** PSH Recovery Wells were to be installed within 6 months of permit issuance (July 12, 2009) if product thickness is greater than 0.5 ft.
C. **Records:** The owner/operator shall store all discharge permit related records and documents at the refinery and make them available to the agencies (City of Lovington and OCD) upon request. Has this been done? I could not access records during my inspections in the past.....

4:45 **City of Lovington Discussion of any concerns, etc.**

4:50 **Refinery issues, concerns, etc.**

- 5:00 **Miscellaneous Issues**

The Agencies involved with this facility are:

City of Lovington Contacts:

Michael Leighton (City Manager)
City of Lovington
(505) 396-2884
mleighton@lovington-nm.org

Patrick B. McMahon
HEIDEL, SAMBERSON, NEWELL, COX & McMAHON
311 North First Street
Lovington, New Mexico 88260
Office: (575) 396-5303
Facsimile: (575) 396-5305
hsncpbm@leaco.net

Oil Conservation Division:

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
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
(Pollution Prevention Guidance is under "Publications")

GW-14 Mtg. 10/8/2009

Joe Chavez	OCD	505-476-3490
Johnny Jacobs	NAVAJO	575-746-5490
Darrell Moore	Navajo	575-746-5281
Steve Terry	NAVAJO	575-396-9404
DAVID BOYER	SESI	575-397-0510
Wyatt Duncan	City of Lovington	(575)-704-9171
Kurt Porter	City of Lovington	575-704-9182
Michael Leighton	" "	(575) 396-2844
PATRICK B. McMAHON	City of Lovington	(575) 396-5303
GLENN VON GONTEN	OCD	505 476 3488
DANIEL SANCHEZ	OCD	(505) 476-3493

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

January 12, 2009

Mr. Darrell Moore
Environmental Manager for Water & Waste
Navajo Refining Company- Lovington Refinery
PO Box 159
Artesia, New Mexico 88211-0159

RECEIVED
JAN 15 2009
By

RE: DISCHARGE PERMIT (GW-014)
NAVAJO REFINING COMPANY- LOVINGTON REFINERY

Dear Mr. Moore:

Pursuant to Water Quality Control Commission (WQCC) Regulations (20.6.2.3000 - 20.6.2.3114 NMAC), the Oil Conservation Division (OCD) **hereby approves** the discharge permit for the **Navajo Refining Company- Lovington Refinery** (GW-014) located in the SW/4 of Section 31, Township 16 South, Range 37 East; the SE/4 of Section 36, Township 16 South, Range 36 East; the NW/4 of Section 6, Township 17 South, Range 37 East; and the NE/4 of Section 1, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, under 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 30 working 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 if 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.

If you have any questions, Please contact Mr. Carl Chavez of my staff at (505-476-3491) or E-mail: carlj.chavez@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,

Wayne Price
Environmental Bureau Chief

LWP/cc
Attachments-1
xc: OCD District Office

ATTACHMENT TO THE DISCHARGE PERMIT
NAVAJO REFINING COMPANY- LOVINGTON REFINERY (GW-014)
DRAFT DISCHARGE PERMIT APPROVAL CONDITIONS

January 12, 2009

Please remit a check for $8,400.00 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. **Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application shall be assessed a filing fee of $100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required $100.00 filing fee. However, the owner/operator still owes the required $8,400.00 renewal permit fee for a refinery.

2. **Permit Expiration and Renewal and Penalties:** Pursuant to WQCC Regulations (20.6.2.3109.H.4 NMAC), this permit is valid for a period of five years. **The permit will expire on October 30, 2011** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, 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. ***Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA1978} and civil penalties may be assessed accordingly.***

3. **Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38 and local environmental regulation(s) and/or ordinance(s).

4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its June 27, 2006, discharge plan renewal application with $100 Filing Fee, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

5. **Modifications:** WQCC Regulation 20.6.2.3107.C and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increases or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. **Waste Disposal and Storage:** The owner/operator shall dispose of all oil field exempt and non-exempt non-hazardous wastes at an OCD-approved facility. RCRA non-hazardous, non-exempt oil field wastes regulated by the OCD may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis (See Attachment 1). Only oil field RCRA- exempt and non-exempt non-hazardous wastes may be disposed of by injection in a Class I Well. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II Well.

A. **OCD Rule 712 Waste:** Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change (See Attachment 1).

B. **Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. An exception may be allowed where empty containers are triple-rinsed prior to storage and demarcated to indicate rinsing was performed. However, approval shall require submittal of a site diagram(s) displaying the empty container triple-rinse locations(s) throughout the refinery with schematics or flow diagrams with explanation of the rinse process, effluent discharge location(s), treatment, storage or disposal of any waste, and equipment within 3 months of permit issuance. Empty containers stored outside of impermeable pads or curbing without a triple rinse designation shall be a violation of this provision. The owner/operator shall store empty containers (non-rinsed) on their sides with the bungs or lids in place and lined up in a horizontal plane. The owner/operator shall store chemicals in other containers, such as drums, tote tanks, sacks, etc., on an impermeable pad with curbing. All storage areas shall be designed and constructed to allow for the separation of incompatible chemicals.

8. **Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases and spills have reached the ground surface.

9. **Above Ground Tanks:** The owner/operator shall ensure that all above ground tanks have impermeable secondary containment (e.g., liners and berms) with leak detection systems. The owner/operator shall retrofit all existing tanks before discharge permit renewal or within a proposed schedule approved by the OCD within 3 months of permit issuance. Tanks that contain good quality fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

All new and existing above ground tanks containing chemicals must be placed or retrofitted over an impermeable pad (60-mil LLDPE reinforced liner with leak detection system) or liner system within a bermed secondary containment area approved by the OCD. The bermed areas shall be constructed to contain a volume of at least one and one-third (1 + 1/3) greater than the total volume of the largest tank and/or all interconnected tanks within a bermed containment area. Alternative secondary containment designs must be approved by the OCD.

The owner/operator shall submit a spreadsheet or table identifying all tanks with a work schedule to address this provision (Tank ID #, type of tank, new/used, volume, chemical stored, tank age, last Integrity test date, planned retrofit date and/or construction date, etc.) to the OCD for approval. The owner/operator shall prioritize existing tanks for retrofit based on the toxicity and solubility (contaminant fate-transport potential, etc.) of chemicals (i.e., BTEX, JP4, etc.), site-specific threats to public health, safety, fresh water, and the environment. A work schedule with a phased approach extending beyond the standard 5-Year permit period may be approved by the OCD if submitted within 3 months of permit issuance. The table(s) shall be considered approved if the OCD does not respond within 30 days of receipt of the proposed table and work schedule.

10. **Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans. Per Section 7 above, all triple-rinsed containers stored outside of impermeable pad areas shall be demarcated to indicate they have been triple-rinsed at approved locations.

11. **Below-Grade Tanks/Sumps and Pits/Ponds.**

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule proposed in a spreadsheet or table approved by the OCD within 3 months of permit issuance. The owner/operator shall develop a spreadsheet record or table that contains

all below-grade tanks, sumps, pits, and ponds. Each device or system shall have an identification, drawing reference, date installed, test dates, test method, pass/fail/repair information with signature, and investigation results w/ date of resolution, if applicable. Navajo shall test at a minimum 20% of each category of device each year or 100% by the expiration date of the permit, if an alternate schedule is not approved by the OCD. The table(s) shall be considered approved if the OCD does not respond to a proposed alternate schedule submitted to OCD within 3 months of permit issuance. An alternate schedule will be considered approved if the OCD does not respond to a submittal within 30 days of receipt. Systems that have secondary containment with leak detection shall have a monthly inspection with fluid level record keeping of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours. A list of all below-grade tanks and sumps with schedule for testing or completion, and/or decommission shall be included with the submittal.

B. All pits and ponds including modifications and retrofits shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, 60-mil LLDPE liners or other liner approved by the OCD with dual thermal seam (seamless liners preferred), and secondary containment with leak detection system (with the exception of storm water retention or detention ponds that must meet the liner requirement only), monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/ operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule submitted to the OCD and approved within 3 months of permit issuance. A spreadsheet or table of all pits and ponds with schedule for completion shall be included in the submittal and OCD shall approve or deny the submittal within 30 days of receipt. The table(s) and work schedule(s) shall be considered approved if the OCD does not respond within 30 days of receipt.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting is not feasible, routine witnessing and/or discovery of dead wildlife and migratory birds shall be reported to the appropriate wildlife agency with notification to the OCD in order to assess and enact measures to prevent the above from reoccurring.

D. The owner/operator shall maintain the records from all tests and inspections at the facility covered by this discharge permit and made available for OCD inspection upon request. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 72 hours of discovery. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection

of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at Least 72 hours prior to all testing.

12. **Evaporation Ponds:** All wastewater discharged to evaporation ponds shall be demonstrated that it meets the definition of EPA RCRA Non-hazardous pursuant to 40 CFR 260-261. A minimum freeboard of two feet shall be maintained in the ponds so that no over topping of wastewater occurs. Any major repairs or modifications to the ponds or leak detection systems must receive prior OCD approval. Any exceedance of the freeboard, rapid loss of head or any leaks or releases shall be reported pursuant to Section 16 (Spill Reporting).

A. **Inspections:** Evaporation ponds shall be inspected a minimum of three times per week and after any major storm event. Weekly records shall be maintained for all flow rates from all flow meters, fluid levels, freeboard, seepage, flow channels, pipes, valves, liner and dike integrity.

B. **Water Quality and Quantity Monitoring:** All operational evaporation ponds shall be inspected, sampled and analyzed similar to the frequency of monitor wells in Section 20A and analytical data shall be included in the annual report. In addition, all wastewater from the refinery or other sources entering ponds shall be metered and records maintained and reported in the Annual Summary Report (See Section 22).

C. **Temporary and existing storage ponds:** Any existing ponds shall be identified as per Section 11B and the owner/operator shall submit either a closure plan for OCD approval or install liners, etc. as required by the permit.

13. **Underground Process/Wastewater Lines:**

A. The owner/operator shall provide a comprehensive spreadsheet/table listing of all underground process/wastewater pipelines within 3 months of permit issuance to establish the basis for compliance with this provision. The owner/operator shall perform mechanical integrity testing (MIT) at least once every five (5) years and/or complete a minimum of 20% per year of all underground process/wastewater pipeline MITs before the expiration date of the permit to demonstrate the mechanical integrity of all underground process/wastewater pipelines, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD. The OCD shall be notified at Least 72 hours prior to all testing.

B. 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 (i.e., sanitary effluent lines, triple-rinse flow lines, etc.) must be

approved by the OCD prior to installation. The owner/operator shall report any Leaks or loss of integrity to the OCD within 72 hours of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and records shall be made available to OCD inspectors upon request. The owner/operator shall notify the OCD at Least 72 hours prior to all testing.

14. **Class V Wells:** The owner/operator shall close all Class V wells (e.g., septic systems, underground sanitary discharge closed system tanks, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water and/or where the infiltration trench is "deeper than its widest surface dimension," or includes an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground, are considered Class V injection wells under the EPA UIC Program. Class V wells shall be permitted by the New Mexico Environment Department (NMED) if sanitary wastewater is injected into a leach field without processing, treatment or disposal within an OCD treatment system at the facility.

15. **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. All drains shall be fully functional, unobstructed by sediment buildup and debris to facilitate proper drainage. The owner/operator shall maintain all discharge permit related records at the facility and make records available to OCD inspectors upon request (See Section 21C below).

16. **Spill Reporting:** The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify the City of Lovington, OCD District Office and the OCD Santa Fe Office within 24 hours and file a written report to OCD Santa Fe within 15 days. The owner/operator shall notify the City of Lovington immediately of any discharge, leak, spill or release that poses an imminent threat to the City's fresh water supply to allow the City to take corrective action(s) to prevent contamination from entering the freshwater gathering system. Note that the owner/operator may also have a federal reporting obligation(s) to the National Response Center when releases to the environment exceed the "Reportable Quantity" or RQ per 40 CFR 302.4 (Designation of Hazardous Substances).

17. **OCD Inspections:** The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections. Subsequent to the OCD's March 14, 2008 inspection of the facility, the following requirements apply:

i The owner/operator shall submit an updated site map(s) showing the current status of all recovery wells, monitor wells, domestic wells (City of Lovington water supply),

irrigation wells, and pertinent features (i.e., new refinery units, remediation systems, new tanks, expansions, effluent pipeline(s), centralized chemical storage location, oil and gas transmission lines within and proximal to the property and ground water contamination, including storm water basins (detention ponds) if present) before June 30, 2009.

ii The owner/operator shall construct a second impermeable pad area at a centralized chemical storage area, which will serve to separate incompatible chemicals by March 31, 2009. A drawing(s) shall be submitted that illustrates a new centralized chemical storage location in advance of construction activities.

iii The owner/operator is in the process of moving the control room into the main office building, which will impact the number of new and size of existing sanitary septic systems at the facility. The owner/operator shall provide proof of permit application and correspondence with the New Mexico Environment Department (NMED) - Ground Water Quality Bureau for septic system(s) installation before June 30, 2009. The septic system(s) shall be installed by September 30, 2009. Class V wells that inject domestic waste that is not treated at the refinery must be permitted by the NMED (See Section 14).

iv The owner/operator shall cleanup **all** spills or releases of chemicals regardless of "Minor vs. Major Releases" under OCD Rule 116. Contaminated soils/sediments shall be physically removed or excavated from the ground to eliminate point source contamination to surface and/or ground water throughout the refinery (See Section 16). The only exceptions would be monitor well installation down gradient of releases or potential point source(s) areas that are inaccessible, and process, maintenance and yard areas (See Section 8) where the owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

v The owner/operator shall cleanup chemical spills to soil/sediment media using visual, olfactory, field PID (OCD approved procedures) with final laboratory samples collected (base and sidewalls of excavation) and analyzed for BTEX, TPH and Chlorides at an environmental laboratory implementing standard EPA analytical methods with QA/QC. Analytical laboratory data with photos and supporting documentation shall confirm that contamination has been cleaned up and attached to a final C-141 for OCD approval. The OCD may require additional corrective action(s).

vi The owner/operator shall install monitor wells with 15 foot screens across the water table (monitored for BTEX, TPH and Chlorides with the rest of the facility monitor wells) down gradient of **all** releases where contaminated soils/sediments are not fully excavated and associated with C-141 reporting (See Attachment 2). Other proposed options, i.e., soil vapor extraction, bioremediation, additional investigation, etc. of contaminated soils to remove the point source of contamination from soil and sediment may be considered for approval by the OCD (see Sections 16 and 20).

vii The owner shall submit annual ground water monitoring reports similar to the contents and format of the "Groundwater Monitoring & Remediation System Performance Report July 2001 – June 2002" (report) from now on in order to reassess the status of vadose zone and contaminant hydrogeology beneath the facility. The recovery system that was installed was apparently discontinued over time as the ground water level dropped below many of the current monitor well screen locations according to the most recent status of operation inquiry. New monitor wells constructed and monitored (See Sections 16(v) and 20) shall be installed within 3 months of permit issuance. Additional down gradient monitor wells are required at locations down gradient from suspected refinery point source areas (See "Attachment 2" C-141 Forms- especially the 10/25/2007 pipeline release discovery) and upgradient from any City of Lovington drinking water supply well in order to safeguard the municipal water supply system. Phase separated hydrocarbons (PSH) shall be reassessed and PSH wells shall be installed within 6 months of permit issuance where product thickness is at or greater than 0.5 ft. Recovery wells may be required anywhere ground water contamination is detected upgradient from a water supply well. The annual monitoring report shall contain a conclusions section with recommendations for any additional corrective actions including additional monitor well locations based on the contaminant hydrogeology from environmental sampling and in the annual report. (See Section 20).

viii The owner/operator shall consider **all** explosions, fires, etc., regardless of magnitude, duration, etc., to be a "Major Release" under OCD Rule 116 and reported to the OCD accordingly. The owner/operator shall cooperate with the OCD to ensure that all explosions/fires are tracked or recorded and corrective action(s) is implemented in a timely manner to eliminate the recurrence and to protect human health, safety and the environment. The OCD shall assist by following up with the owner/operator to ensure that the refinery is working to address and find solutions to these type of problems as the situation warrants.

ix The owner/operator shall maintain a non-vegetation zone minimum of one-hundred feet radius around any flare stack(s) at all times to help prevent potential fire danger regardless of the season or weather conditions.

x The owner/operator shall maintain **all** Lovington Refinery records including this discharge permit at the facility and readily available during inspections, site activities, etc. All records shall be made available to OCD Inspectors upon request (See Section 21C).

18. Storm Water: The owner/operator shall implement and maintain run-on and run-off plans and controls. The owner/operator shall separate or isolate chemical contact from non-contact storm water drainage areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any non-contact storm water run-off drainage area. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to mitigate and remediate any discharge.

19. **Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. ***An unauthorized discharge is a violation of this permit.***

20. **Surface Water/ Ground Water/ Vadose Zone Monitoring/ Remediation/ Abatement:**

The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000 - 4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports shall be a violation of the permit.

The owner/operator shall sample, analyze and report ground water contamination to the City of Lovington and OCD in accordance with applicable federal, state and local laws or ordinances. All environmental analytical sampling and testing shall comply with Environmental Protection Agency Standards and Methods. Permanent and/or temporary monitoring and remediation changes must be approved in writing by the OCD.

A. Ground Water and Treatment System Monitoring: Ground water monitoring locations, sample frequency, and laboratory analytical methods are specified in the table below. All permanent changes to the ground water monitor plan must be approved in a "Minor Modification" in writing by the OCD.

Location[1,2]	Frequency	Measurement[1,2] / Analysis[3]
MW-1	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-2	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-3	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-4	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-5	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-6	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-7	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-8	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-9	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-10	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
New MWs	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals

Location[1,2]	Frequency	Measurement[1,2] / Analysis[3]
All down gradient water supply wells	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
All RWs	Semi-Annual	General chemistry / VOC / SVOC / MTBE / WQCC Metals
All PSH Wells	Semi-Annual	Measurement of product layer thickness, if present.

PSH= Phase Separated Hydrocarbon or Free-Product
RW= Recovery Well

1 Static water level or water table depth shall be measured in advance of each sampling event with exception of water supply wells and exceedances of the water quality standards displayed as piezometric and iso-concentration maps in reports. All monitor well locations shall be constructed with 15 feet of screen to allow 5 feet of screen above the water table for fluctuations.
2 All MWs and RWs shall be monitored for Phase-Separated Hydrocarbon (PSH) & thickness (to nearest 0.01ft) recorded and displayed as iso-concentration maps in reports. A correction factor for wells containing PSH shall be applied where necessary.
3. Lab methods shall be as follows: Gen. Chem. (300 & other approved methods); VOC (8260B); SVOC (8270/8310); MTBE (8260B) & WQCC Metals (6010).

B. Ground Water and Treatment System Annual Monitoring Report: An annual report shall be submitted to the OCD by April 15th of each year. The annual report shall contain:

1. Description of the monitoring and remediation activities that occurred during the year including conclusions and recommendations.

2. Summary tables listing laboratory analytical 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. Copies of the most recent year's laboratory analytical data sheets supporting plots shall also be submitted.

3. Water table (piezometric) and/or potentiometric surface elevation iso-concentration maps utilizing static water level data shall be included in the annual report to assess local and/or regional ground water flow direction(s). A corrected water table elevation shall be determined from all wells containing phase-separated hydrocarbons. Map shall show all monitoring, recovery, PSH and City of Lovington water supply wells, pertinent site features (i.e., pipelines, effluent lines, etc.), and the direction and magnitude of the hydraulic gradient. All maps shall be to scale. Chemical iso-concentration maps of any contaminants exceeding water quality standards are required.

4. Plots of water table elevation vs. time for each ground water monitoring point from monitoring data is required to assess water table fluctuations and potential for PSH smear zone development or dormancy.

5. Monthly and cumulative flow rates and volumes from PSH and recovery wells and the total recovered to date.

6. Product thickness maps from monitoring based on the thickness of Phase-Separated Hydrocarbons (PSH) or product on ground water in all refinery recovery and monitoring wells shall be included in the report. Maps shall include isopleths to the nearest 0.5 feet or iso-concentration lines to the nearest 10 ppb for organics, 10 - 100 ppm for metals, TDS, etc., for product and contaminants of concern detected during monitoring.

7. File this report in an acceptable electronic format along with hard copies to the City of Lovington and OCD Santa Fe.

C. **Vadose Zone Monitoring:** The following shall apply:

1. The owner/operator shall implement vadose zone corrective action from releases consistent with Sections 17iv and 17v of this permit All point sources of contamination shall be removed to eliminate surface water and ground water contamination threats to the environment and the City of Lovington Well Head Protection Area.

2. All verification (analytical data results, photos, C-138s, etc.) of vadose zone remediation shall be documented and submitted to the OCD on a final C-141 with supporting documentation within 30 days of corrective action.

D. **Notification of field activities:** The following shall apply:

1. The owner/operator shall notify the City of Lovington, OCD Santa Fe and local district office at least 2 weeks in advance of all scheduled field activities to allow OCD the opportunity to witness investigation, remediation, monitoring events and split samples. For large facilities, i.e., refineries, an annual notification may suffice.

2. The owner/operator shall notify the City of Lovington and OCD within 72 hours of the discovery of separated-phase hydrocarbons or the exceedance of WQCC water quality standards detected in any down gradient monitor well from the previous sampling or monitoring event.

21. Additional Site Specific Conditions:

A. **Environmental Status Report:** The owner/operator shall provide a separate monitoring and remediation environmental status report or presentation to the City of Lovington and OCD within 9 months of permit issuance to provide an update on contaminant hydrogeology with emphasis on threats to the City of Lovington water supply from the facility. PSH locations with thickness; isocon or isopleth maps (i.e., VOCs, SVOCs, MTBE, Gen. Chemistry; and WQCC Metals) and other information that support findings with conclusions and/or recommendations for further remediation.

Include any recent ground water quality monitoring information from monitor and recovery wells, since the report, "Groundwater Monitoring & Remediation System Performance Report (Report) July 2001 – June 2002." This report appears to be the last groundwater monitoring report submitted by Navajo to the OCD with analysis of data, supporting documentation, compilation, and recommendations based on the report. At that time, Navajo had an active treatment system in operation and was continuing quarterly monitoring with the next sampling event scheduled for September 2002. Navajo was continuing to investigate the occurrence of hydrocarbon product with additional work. Surface excavation in the vicinity of the API Separator and installation of additional PSH product recovery wells was also mentioned. According to the report, the leading edge of the benzene plume had reached the North refinery well and was impacting ground water at the drinking water standard of 0.005 mg/L. It was stated that the monitor wells are monitored quarterly for BTEX. The report also stated that the presence of PSH at RW-1, MW-1 and MW-7 was troublesome. Navajo had performed extensive remedial work at the location to eliminate leaks from oil/water separator boxes. Possible remaining sources of the problem may be an unknown crude line in the area or delayed drainage of previously released oil through preferential pathways in the near-surface caliche.

B. New Full-Time Automated Free-Product Recovery System: PSH or product recovery wells shall be installed at or near monitoring locations exhibiting significant product thickness (>0.5 ft.) within 6 months of permit issuance, if warranted, to recover and eliminate the source of ground water contamination from the refinery, if present. PSH or free-product shall be routed to the API Separator for refinery reprocessing, and to address the OCD conservation requirement to prevent the waste of recoverable energy resources. Alternative methods of treatment, storage and/or disposal shall be approved in writing by the OCD.

C. Records: The owner/operator shall store all discharge permit related records and documents at the refinery and make them available to the agencies (City of Lovington and OCD) upon request.

22. Annual Summary Report: On an annual basis due by April 15th. the Owner/Operator may combine the Annual Summary Report herein with the "Ground Water and Treatment System Annual Monitoring Report" (See Section 20B) and submit one formal "Annual Ground Water Monitoring and Summary Report (Report)" to the City of Lovington and OCD Santa Fe. In addition to Section 20B, the Report shall include the following at a minimum:

A. Summary of all major refinery activities or events and pollution prevention initiatives to highlight.

B. Highlights or results of all aforementioned sampling and monitoring events per Sections 20 and 21.

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

D. Summary of tanks, sumps and underground wastewater lines tested and or retrofitted.

E. Summary of all leaks, spills and releases with attached initial and final C-141 forms, supporting information, and corrective actions taken.

F. Summary of discovery of any new vadose zone and/or ground water contamination or threat to the City of Lovington Well Head Protection Area. This should include recommendations with a schedule for any further investigation, monitoring and remediation.

G. Summary and Copies of all City of Lovington and OCD activity, i.e., meetings, inspections, etc.

23. **Transfer of Discharge Permit (WQCC 20.6.2.3111):** Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transfer or shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee. Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the OCD's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

24. **Closure and Financial Assurance (20.6.2.3107A (11) NMAC):** Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator shall submit a closure plan for OCD written approval or modify an existing plan, and/or provide adequate financial assurance in the form of an OCD Letter of Credit for a minimum OCD required amount based on the cost estimate provided below.

The owner/operator shall submit a closure plan and financial assurance cost estimate for post-cleanup monitoring by September 30, 2009. The plan shall address how any remaining water contaminants will be monitored and/or abated to ensure the protection of public health and safety, fresh water, and the environment for a period of at least 30 years after facility closure.

25. Certification: Navajo Refining Company, by the officer, whose *signature* appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained herein. **Navajo Refining Company** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

NAVAJO REFINING CO
Company Name-print name above

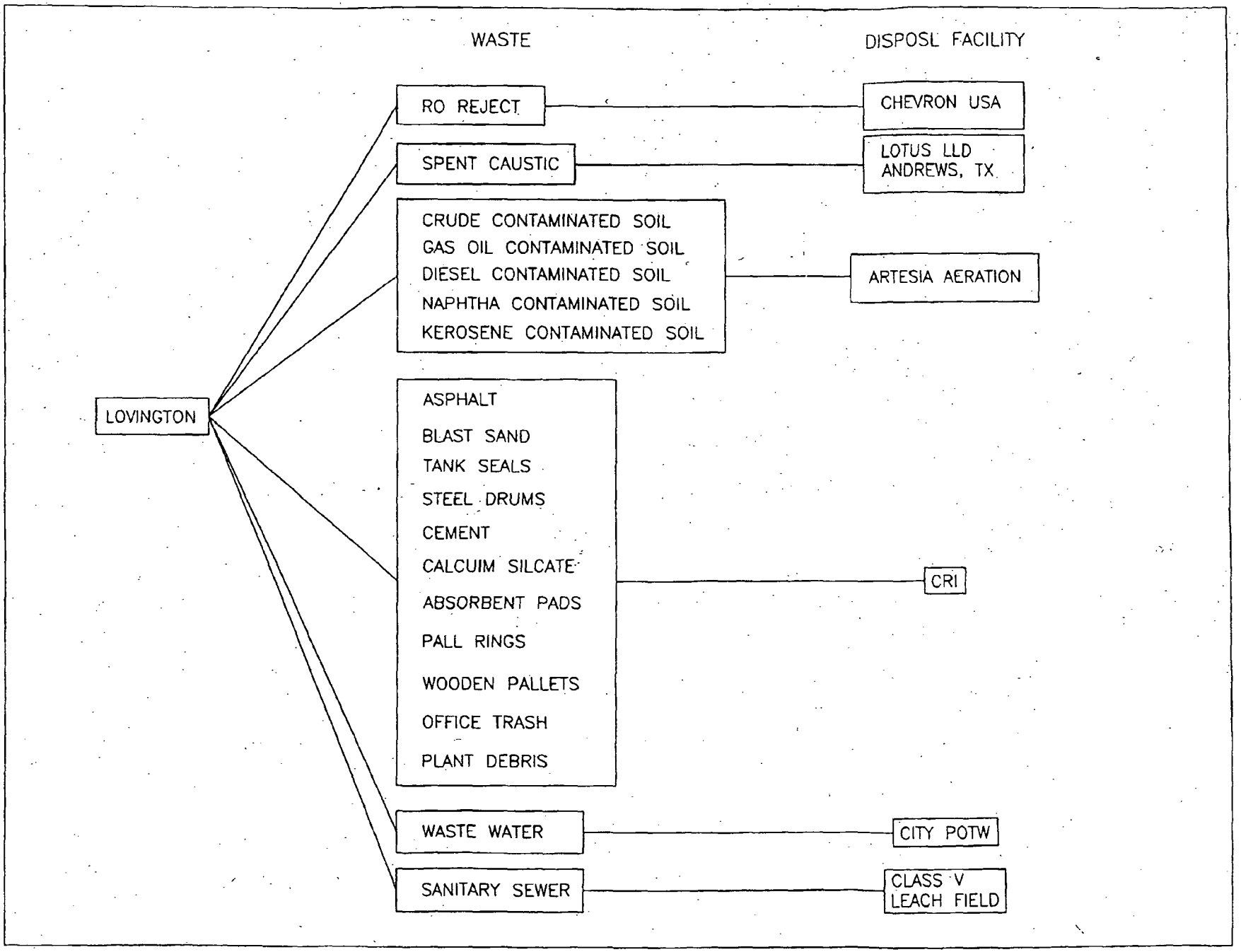
JAMES RESINGER
Company Representative- print name

Company Representative- Signature

Title VP NAVAJO REFINING CO

Date: 2/11/09

ATTACHMENT 1


WASTE
DISPOSL FACILITY
LOVINGTON
RO REJECT
CHEVRON USA
SPENT CAUSTIC
LOTUS LLD
ANDREWS, TX
CRUDE CONTAMINATED SOIL
GAS OIL CONTAMINATED SOIL
DIESEL CONTAMINATED SOIL
NAPHTHA CONTAMINATED SOIL
KEROSENE CONTAMINATED SOIL
ARTESIA AERATION
ASPHALT
BLAST SAND
TANK SEALS
STEEL DRUMS
CEMENT
CALCUIM SILCATE
ABSORBENT PADS
PALL RINGS
WOODEN PALLETS
OFFICE TRASH
PLANT DEBRIS
CRI
WASTE WATER
CITY POTW
SANITARY SEWER
CLASS V
LEACH FIELD

ATTACHMENT 2

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Contact
Navajo Refining - Lea	Darrell Moore
Address	Telephone No.
P.O. Drawer 159 Artesia, NM	505-748-3311
Facility Name	Facility Type

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Diesel	70 bbls.	30 bbls.
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
Relief valve	12/7/03 4:00 am	12/7/03 4:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?**	
	E.L. Gonzalez	
By Whom?	**Date and Hour**	
Darrell Moore	12/7/03 1:00 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse.**	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Relief valve was left open. When pump was kicked on, the release occurred.

Describe Area Affected and Cleanup Action Taken.* Area is near TK103B. Vacuum truck picked up 30bbls. Liquid. 100yds. of contaminated soil was removed and shipped to CRI. Bottom hole samples have been collected. Awaiting results.

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

	OIL CONSERVATION DIVISION
Signature: Darrell Moore	
Printed Name: Darrell Moore	Approved by District Supervisor:
Title: Env. Mgr. for Water & Waste	Approval Date: / Expiration Date:
Date: 12/17/03 Phone: 505-748-3311	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Lea Refining Co.	Contact Darrell Moore
Address	Telephone No. 505-746-5281
Facility Name	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

Latitude 32°52'38"N Longitude 103°18'00"W

NATURE OF RELEASE

Type of Release Naptha-Kerosene	Volume of Release Unknown	Volume Recovered 30bbls
Source of Release Run Down Line	Date and Hour of Occurrence	Date and Hour of Discovery 10/12/05
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson OCD	
By Whom? Darrell Moore	Date and Hour 10/13/05 8:30am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Line developed leak. Leak was clamped off and free standing product was vacuumed up. Line is being inspected for potential replacement.

Describe Area Affected and Cleanup Action Taken.* Affected area is near the RO Unit and under pipe rack. Crew will remove contaminated dirt which will be profiled for disposal. Bottom samples will be analyzed.

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

Signature: Darrell Moore	OIL CONSERVATION DIVISION
Printed Name: Darrell Moore	Approved by District Supervisor.
Title: Env. Mgr. for Water & Waste	Approval Date: / Expiration Date:
E-mail Address: darrell.moore@navajo-refining.com	Conditions of Approval: / Attached ☐
Date: 10/14/05 Phone: 505-746-5281	

* Attach Additional Sheets If Necessary

FILE COPY

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Navajo Lea Refining Co. LLC	Contact: Darrell Moore
Address: 7406 S. Main Lovington, NM	Telephone No.: 575-748-3311
Facility Name: Lovington Plant	Facility Type: Petroleum Refinery

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 20 bbls	Volume Recovered: 5 bbls
Source of Release: Sump at pipeline	Date and Hour of Occurrence: 10/10/07 8:00am	Date and Hour of Discovery: 10/10/07 8:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Hobbs OCD voicemail-on call phone	
By Whom? Doug Price	Date and Hour 10/10/07 9:05am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* During switching from one crude tank to the other, relief valve released filling up sump and overrunning. Vacuum was used to suck up free oil.

Describe Area Affected and Cleanup Action Taken.* Area affected is in two areas of about 10' wide by 100' long each. Contaminated soil has been picked up and bottom hole TPH samples taken. Waiting on results

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

Signature: Darrell Moore	OIL CONSERVATION DIVISION
Printed Name: Darrell Moore	Approved by District Supervisor:
Title: Env. Mgr. for Waste & Water	Approval Date: / Expiration Date:
Date: 10/18/07 Phone: 575-748-3311	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary

FILE COPY

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Contact
Navajo Refining Co. LLC	Darrell Moore
Address	Telephone No.
7406 S. Main Lovington, NM	575-746-5281
Facility Name	Facility Type
Lovington Refinery	Petroleum Refinery

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Crude Oil	Unknown	2 bbls
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Hole in pipeline	Unknown	10/25/07 10:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson, Hobbs OCD, Wayne Price Santa Fe, OCD	
By Whom? Darrell Moore	Date and Hour 3:30 pm 10/25/07	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* A pool of oil was noticed along a pipe run. Upon investigation, a hole was discovered in a pipe. The pipe was excavated and clamped.

Describe Area Affected and Cleanup Action Taken.* 20 yds of contaminated soil has been removed to uncover the pipe. The vertical limit has not been reached and the location within the pipe run makes it difficult to clean under it.

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

Signature: Darrell Moore	OIL CONSERVATION DIVISION	
Printed Name: Darrell Moore	Approved by District Supervisor:	
Title: Env. Spr for Water & Waste	Approval Date:	Expiration Date:
Date: 10/25/07 Phone: 575-746-5281	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Contact
Navajo Eea Refining Co. LLC	Darrell Moore
Address	Telephone No.
7406 S1 Main Lovington, NM 88260	505-703-5058
Facility Name	Facility Type
	Petroleum Refinery

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Caustic	150 Bbls	120 Bbls
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
Caustic Scrubber	7/10/08 5:30 am	7/10/0806:00 am
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	**If YES, To Whom?**	
By Whom?	**Date and Hour**	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse.**	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Relief valve hung in the open position and filled sump. Which then over flowed. Valve is being replaced.

Describe Area Affected and Cleanup Action Taken.* Area affected is to the east and south of caustic scrubber. Happened during a rain event, so most of material was floating on water. Vacuum truck sucked up spill material. Contaminated soil will be removed.

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

Signature: Darrell Moore	OIL CONSERVATION DIVISION
Printed Name: Darrell Moore	Approved by District Supervisor:
Title: Env. Mgr. for Water & Waste	Approval Date: / Expiration Date:
Date: 7/10/08 Phone: 575-703-5058	Conditions of Approval: / Attached ☐

* Attach Additional Sheets If Necessary

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, July 02, 2009 8:50 AM
To: 'Moore, Darrell'
Cc: 'hsncpbm@leaco.net'; 'Jerri Lee'
Subject: Navajo Refining Company- Lovington Refinery (GW-014) Updated Site Map displaying MWs, water wells, transmssion lines, drum storage areas, etc.

Darrell:

The OCD is in receipt of the updated facility map, etc.

I notice that there is no copy to the City of Lovington. Please find below the contact list for copying all of the agencies on this facility to ensure we are all moving forward together.

City of Lovington:

Charles Kelley (City Manager)
City of Lovington
(505) 396-2884
ckelley@lovington-nm.org

Patrick B. McMahon
HEIDEL, SAMBERSON, NEWELL, COX & McMAHON
311 North First Street
Lovington, New Mexico 88260
Office: (575) 396-5303
Facsimile: (575) 396-5305
hsncpbm@leaco.net

Please make sure that Mr. McMahon gets copied on all facility correspondence with the OCD as he is the key reviewer for the City of Lovington. Also, I believe there is a new City Manager; however, you may simply send a copy to the City Manager address too.

Please contact me if you have questions. Hope you have a Happy 4th!! 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
(Pollution Prevention Guidance is under "Publications")

NAVAJO REFINING COMPANY, LLC

FAX
(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX
(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

June 30, 2009

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

RE: Discharge Permit (GW-014) Navajo Refining Company-Lovington Refinery

Dear Mr. Chavez,

On January 15, 2009, Navajo Refining Company (Navajo) received our discharge permit (GW-014). That permit defined several deadlines that were to be met. Specifically, this letter addresses two of those deadlines.

Enclosed, please find a copy of the updated site map showing monitor wells, water wells, oil and gas transmission lines, drum storage areas, chemical storage areas, etc. of our Lovington facility. This is due June 30, 2009.

Also, the permit asked that proof be submitted that we have applied for a permit to build the septic systems at Lovington. We have selected a contractor, Custom Mobile Concrete, and John Wells with NMED- Liquid Waste has asked that we drill test holes. This has put us a little behind schedule but we are moving forward. I will get the application to you when it is submitted. We expect that to happen this week.

If there are any questions regarding this submission, please contact me at 575-746-5281.

Sincerely,
NAVAJO REFINING COMPANY, LLC

Darrell Moore
Environmental Manager for Water and Waste

Encl.

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. _____ dated 2/17/09

or cash received on _____ in the amount of $ 8400 00

from Navajo Refining Co.

for GW-14

Submitted by: Lawrence Romero Date: 2/26/09

Submitted to ASD by: Lawrence Romero Date: 2/26/09

Received in ASD by: _____ Date: _____

Filing Fee _____ New Facility _____ Renewal _____

Modification _____ Other Permit Fee

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

NAVAJO REFINING COMPANY LLC
100 Crescent Court, Suite 1600
Dallas TX 75201-6927

WATER QUALITY MANAGEMENT FUND
OIL CONSERVATION DIVISION
1220 S SAINT FRANCIS DR
SANTA FE NM 87505-4000

Check Date		02/17/2009
Check Amount	$	8,400.00
Vendor No		5111809
Payment Document		2000008677
Company Code		1020

Invoice Date	Invoice Number	Description	Invoice Amount	Discount Amount	Net Amount
10/29/2008	102908	DRAFT DISCHARGE PERMIT	8,400.00	0.00	8,400.00

Payment document	Check number	Date	Currency	Payment amount
2000008677	1000049825	02/17/2009	USD	*********8,400.00*

↓ PLEASE FOLD ON PERFORATION AND DETACH HERE ↓

REFINING COMPANY, LLC

FAX
(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX
(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

February 18, 2009

Brad A. Jones
Environmental Engineer
Environmental Bureau
NM Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: Discharge Plan Renewal Permit (GW-14)
Navajo Refining Company – Lovington Refinery
Lea County, New Mexico

Dear Brad,

Please find enclosed a check for $8400.00 to cover the fee for the above referenced permit. If you have any questions, please call me at 575-746-5281.

Sincerely,
NAVAJO REFINING COMPANY

Darrell Moore
Environmental Manager for Water and Waste

Encl.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, November 20, 2008 4:46 PM
To: 'Patrick B. McMahon'
Subject: RE: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Thanks Mr. McMahon. I'll try and get the draft discharge permit posted tomorrow. Otherwise, it won't be until the week of 12/3/2008 before I get to it. 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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Patrick B. McMahon [mailto:hsncpbm@leaco.net]
Sent: Wednesday, November 19, 2008 2:52 PM
To: Chavez, Carl J, EMNRD
Cc: ckelley@lovington-nm.org; Price, Wayne, EMNRD; darrell.moore@hollycorp.com
Subject: RE: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Mr. Chavez,

Thank you for the opportunity to comment on the GW-14 Lea Refinery Discharge Permit. Please accept the following comments on behalf of the City of Lovington:

Paragraph 9 Above Ground Tanks:

The City would prefer the 60 mil vs. 40 mil LLDPE liner under all new tanks. Protection of a public water supply should justify the additional costs associated with the increased mil thickness.

Paragraph 20 D(1) and (2) Notification of Field Activities:

The City would also like to be notified of field activities and the discovery, if any, of separated-phase hydrocarbons or the exceedance of WQCC standards in any monitor well(s).

Paragraph 16 Spill Reporting:

The City would like the owner/operator to notify the City immediately of any discharge, leak, spill or release that poses an imminent threat to the City's fresh water supply. Immediate notification of such an event may allow the City to take corrective action(s) to prevent non-water from entering the freshwater gathering system.

Please note that the City's lack of comment(s) an the remainder of the GW-14 Lea

Refinery Discharge Permit should not be construed as an approval of such.

If you should have any questions, please do not hesitate to call. Thank you.

Sincerely,

Patrick B. McMahon
HEIDEL, SAMBERSON, NEWELL, COX & McMAHON
311 North First Street
Lovington, New Mexico 88260
Office: (575) 396-5303
Facsimile: (575) 396-5305

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Monday, November 17, 2008 9:20 AM
To: Patrick B. McMahon
Subject: FW: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Mr. McMahon:

Please find attached the draft discharge permit that you requested this morning. I look forward to receiving your comments in the next couple of days. Please note that Mr. Pat Wise wanted a quicker release reporting time from 15 days to 72 hours or so. He wasn't too concerned about monitor wells upgradient of the water supply wells to the east of the Lovington Refinery at the time of our last meeting.

Navajo Refinery Recent Comments on Draft:

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Friday, November 07, 2008 2:51 PM
To: Chavez, Carl J, EMNRD
Subject: Lovington Discharge Plan Comments

Dear Carl,

After reading through the discharge plan for our Lovington Plant, the following are our comments for your consideration. The numbers represent the section:

9. OCD asks for a 60 mil LLDPE liner under all new tanks. In the Artesia permit, the liner is 40 mil LLDPE. Navajo would like the 40 mil LLDPE to be the standard.

11D. This section mentions that ..."The owner operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 72 hours of discovery". In the Artesia permit, this reporting requirement is for **15 days.** Navajo would request that the Lovington permit be consistent with Artesia and be rewritten to reflect the 15 day requirement.

13. The last line of this section mentions that ..."the owner operator must permit any new septic systems with the NMED before September 30, 2009". In Section 16C it is stated that ..."The septic systems shall be installed by March 31, 2009". These dates don't synchronize. We would request the September 30, 2009 date for completion as well as permiting.

16g. This section talks about adding monitor wells to replace the current wells that are no longer useful which Navajo agrees with. It goes on to require monitor wells downgradient of reported releases and upgradient from any City of Lovington well head protection area. Navajo would propose that we first replace the wells that are no longer useful, sample and evaluate those wells for PSH and dissolved constituents, and then, if necessary, determine where to place additional wells to protect water supply wells. While we appreciate the concern by OCD and the City of Lovington

regarding the water wells, we have seen no evidence at this facility of a spill large enough to impact those wells. If the new monitor wells show otherwise, then we can attack the problem with a focused approach. To just install monitor wells for no apparent reason seems like overkill.

16h. This section asks for a one-hundred foot radius non-vegetative zone around the flare stack. In Lovington, as at Artesia, we have our own on-site fire team that could respond within minutes to any fire caused by the flare. This provision was removed in the Artesia permit. We think it should be removed in Lovington also.

17. This sections asks us to maintain run-on and run-off **plans** and controls. Lovington is bermed all the way around to keep any storm water from running on or off the premises. What is meant by **plans?**

22. This section asks for an annual report due January 31. There is also an annual Ground Water Monitoring report in 19B that is due by April 15. Navajo would like to submit **one** annual report that covers all requirements by April 15.

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451

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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: ckelley [mailto:ckelley@lovington-nm.org]
Sent: Saturday, November 15, 2008 7:42 AM
To: Chavez, Carl J, EMNRD
Subject: Re: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Patrick McMahon
(575)396-5303

----- Original Message -----
From: Chavez, Carl J, EMNRD
To: ckelley@lovington-nm.org
Sent: Friday, November 14, 2008 2:30 PM
Subject: FW: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Mr. Kelley:

Good afternoon. Just following up on the Lovington Refinery discharge permit draft. Could you please provide the name and phone number of the City Attorney mentioned earlier this week in our telephone conversation who will review the OCD draft discharge permit? 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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Friday, October 24, 2008 11:27 AM
To: 'ckelley@lovington-nm.org'
Subject: FW: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Mr. Kelley:

Good morning. Could you please contact me to discuss the permit for the Lovington Refinery? I understand you are now in charge. 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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Friday, April 04, 2008 1:35 PM
To: Chavez, Carl J, EMNRD
Subject: FW: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Contact Information:

Mr. Pat Wise
City of Lovington
(505) 396-2884
pwise@lovington-nm.org

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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Friday, April 04, 2008 10:56 AM
To: Lovington, City of
Cc: Price, Wayne, EMNRD; 'DARRELL MOORE'

Subject: FW: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Dear Mr. Wise:

I am contacting you today because the Oil Conservation Division is working to renew the Navajo Lea Refinery discharge permit. The Lea Refinery has ground water contamination. Unlike the Navajo Artesia Refinery where the OCD has coordinated its efforts on ground water remediation with the New Mexico Environment Department (NMED)- Hazardous Waste Bureau, the NMED is not involved with the OCD on the ground water remediation at the Lea Refinery (no SWMU/AOC RCRA Units identified to date) at this time.

However, during a recent site inspection (March 14, 2008) and in conjuction with a discharge permit renewal, a suggestion was made by Mr. Darrell Moore (Navajo Refinery) at (505) 703-5058 that the OCD should coordinate its efforts with the City of Lovington based on recent ordinances that it is or has implemented to protect the City of Lovington Well Field. Mr. Moore explained how the Lea Refinery is located with the City of Lovington's well field area. Navajo prefers to work with agencies in a coordinated fashion to promote efficiency in its operations and based on the OCD's experience at the Navajo Refinery, the OCD agrees. However, the City may not have the resources? The OCD would be glad to copy the City on refinery activities in the future.

Consequently, I am requesting the City of Lovington's assistance with the OCD's discharge permit renewal. I am currently developing a draft document to share with the City of Lovington if it expresses to work with the OCD similar to NMED at the Artesia Refinery. The OCD's goal is to cleanup ground water contamination and protect the drinking water supply. The OCD's goal will not change regardless of the City's response.

Thank you in advance for your consideration of this matter. Please contact me at your earliest convenience to express the City of Lovington's response based on the above information.

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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Price, Wayne, EMNRD
Sent: Friday, April 04, 2008 10:37 AM
To: Chavez, Carl J, EMNRD
Cc: Lovington, City of
Subject: RE: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Carl, make sure Mr. Pat Wise Lovington City Manager is in the loop.

From: Chavez, Carl J, EMNRD
Sent: Friday, April 04, 2008 10:00 AM
To: Price, Wayne, EMNRD
Subject: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Wayne:

I think we discussed Darrell's request during the 3/14/08 facility inspection to include the City of Lovington in the permit review process and OCD permit related activities at the refinery. This was requested because he felt that the OCD and NMED's coordinated efforts were preferred to dealing separately with the agencies.

Could you please provide me with the name and phone number of the City of Lovington's contact? 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
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Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, November 10, 2008 8:40 AM
To: 'Moore, Darrell'
Cc: Price, Wayne, EMNRD
Subject: RE: Lovington Discharge Plan Comments (GW-14)

Darrell:

Good morning. I will consider your comments on the draft DP today. 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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Moore, Darrell [mailto:Darrell.Moore@hollycorp.com]
Sent: Friday, November 07, 2008 2:51 PM
To: Chavez, Carl J, EMNRD
Subject: Lovington Discharge Plan Comments

Dear Carl,

After reading through the discharge plan for our Lovington Plant, the following are our comments for your consideration. The numbers represent the section:

9. OCD asks for a 60 mil LLDPE liner under all new tanks. In the Artesia permit, the liner is 40 mil LLDPE. Navajo would like the 40 mil LLDPE to be the standard.

11D. This section mentions that ..."The owner operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 72 hours of discovery". In the Artesia permit, this reporting requirement is for **15 days.** Navajo would request that the Lovington permit be consistent with Artesia and be rewritten to reflect the 15 day requirement.

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22. This section asks for an annual report due January 31. There is also an annual Ground Water Monitoring report in 19B that is due by April 15. Navajo would like to submit **one** annual report that covers all requirements by April 15.

Darrell Moore
Environmental Manager for Water and Waste
Navajo Refining Company, LLC
Phone Number 575-746-5281
Cell Number 575-703-5058
Fax Number 575-746-5451

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, October 29, 2008 4:33 PM
To: 'Moore, Darrell'; Lackey, Johnny; Resinger, Jim
Cc: Price, Wayne, EMNRD; Hill, Larry, EMNRD; 'ckelley@lovington-nm.org'
Subject: Navajo Lovington Refinery Draft Permit Renwal (GW-014)
Attachments: GW-14 Navajo Lovington Refinery Copy.doc; GW-14 Admin Complete.doc; GW-14 PN.doc

Darrell, Johnny and Jim:

Please find attached the draft administrative complete letter, public notice and draft discharge permit for your review. This is your opportunity to review the draft discharge permit and provide any final comments to me by COB Thursday 10/30/2008. You may recall during our last meeting to discuss the draft permit that there were perceived redundancies. Some of the perceived redundancies stem from the last inspection of your facility and the section dedicated to inspection items, and are further complimented by the standard language in the discharge permit. Where you perceive redundancies, I purposely wish to keep standard discharge permit language in the permit, and any inspection items that were identified during the inspection that seem redundant. You may however feel free to comment on them again for my consideration.

As you will perceive from the attached draft discharge permit, the OCD is **VERY** concerned that we have lost track of the status of contaminant hydrogeology beneath the facility. While annual ground water reports have been submitted, the number of wells monitored has diminished due to water table decline according to Navajo. In addition, the active ground water treatment system either failed or was shut down? We are in dire need of refurbishing the monitoring well network to reassess phase separated hydrocarbons (PSHs) and ground water contamination that may threaten the City of Lovington's Water Supply Field or wells. We must prioritize the monitoring well network to be protective of the well field and quickly act to install any needed recovery wells and/or PSH recovery wells to eliminate any ground threats, if present?

By receipt of this e-mail, please be aware that Mr. Pat Wise's replacement is Mr. Charles Kelley, and I have copied Mr. Kelley so he may become involved where Mr. Wise left off. Mr. Kelley will also have an opportunity to comment on the draft discharge permit during the 30 day public notice period (he is out of the office until Monday) after the OCD has deemed the application administratively complete (anticipated date: 10/31/2008). Mr. Kelley may be contacted at (575) 396-2884 or via e-mail at ckelley@lovington-nm.org.

I will make my final revisions and am planning to begin the administrative process on Friday, October 31, 2008. Remember that you can continue to make comments on the draft during the 30 day public comment period and are also welcome to call me. Thank you for your cooperation in this matter.

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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, August 01, 2008 9:29 AM
To: 'Schmaltz, Randy'; Hurtado, Cindy; 'Riege, Ed'
Cc: Price, Wayne, EMNRD; 'Moore, Darrell'; 'Lackey, Johnny'; Monzeglio, Hope, NMENV
Subject: FW: OCD/Praxair Mtg

Randy, Ed and Cindy:

I am writing to invite some representatives (i.e., engineers, scientists...) to an upcoming presentation by Praxair on alternative methods for tank testing that the Navajo Refinery is interested in implementing at its refineries to address OCD required tank testing and alternative approvals on testing. I believe Western Refining SW faces similar challenges at its refineries and the OCD is willing to consider feasible alternative technologies for addressing its requirements. Please come and join Navajo Refining and the OCD at the upcoming presentation here at the Wendell Chino Building (OCD 3rd Floor Conference Room). 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) 476-3491
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Lackey, Johnny [mailto:Johnny.Lackey@hollycorp.com]
Sent: Tuesday, July 15, 2008 12:23 PM
To: Resinger, Jim; Moore, Darrell; Douglas_Wilson@Praxair.com; Chavez, Carl J, EMNRD
Subject: OCD/Praxair Mtg

When: Thursday, August 07, 2008 10:00 AM-12:00 PM (GMT-07:00) Mountain Time (US & Canada).
Where: Santa Fe

~~*~*~*~*~*~*~*~*~*

Meet with the New Mexico OCD to present Praxair's leak detection technology for Above Ground Storage Tanks.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, April 07, 2008 1:13 PM
To: Lovington, City of
Cc: Price, Wayne, EMNRD; Patrick B. McMahon
Subject: RE: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) OCD Discharge Permit Renewal Document Request for Review Comments
Attachments: Navajo- Lovington DP GW-4-4-08 Final.doc

Pat:

Please find attached the OCD's draft discharge permit renewal document for Navajo's Lea Refinery for your review comments and recommendations to the OCD.
Please note that my Supervisor, Mr. Wayne Price has yet to review the draft document, so I anticipate that the final product will change significantly. The agencies
will have another chance to review the final product before sending it to Navajo.

You may recall that I also explained how to access the OCD website link (http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx) to view all past reports and correspondence related to GW-14.

In general, the table in Section 19 of the draft document may require more water supply wells that the City feels are proximal to the refinery? The OCD feels that there has been no new
data presented since the referenced 2002 report was submitted to the OCD. The City may also want to specify a section with the local ordinance or regulation for well head protection,
etc. that is generally referenced in the attached draft document?

I would appreciate your comments or recommendations on the draft document by next Tuesday (4/15/2008) or longer if needed. We can expect to meet with Navajo at the Lea
Refinery after our final draft product is sent to them. This will allow the agencies to tour the facility together after the meeting or during our meeting. The agencies
will work to address final comments from Navajo before the OCD deems the application renewal to be administratively complete and begin the 30 day public notice period.

Please contact me if you have questions or need assistance with OCD Online to view historical records from the Lea Refinery. 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) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Pat Wise [mailto:pwise@lovington-nm.org]
Sent: Monday, April 07, 2008 10:35 AM
To: Chavez, Carl J, EMNRD
Cc: Price, Wayne, EMNRD; DARRELL MOORE; Patrick B. McMahon
Subject: Re: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Carl:

The City of Lovington requests that you keep us involved with the discharge permit renewal for the Lea Refinery. Please copy me on all communication. Thank you.

Pat Wise, Manager
City of Lovington

----- Original Message -----
From: Chavez, Carl J, EMNRD
To: Lovington, City of
Cc: Price, Wayne, EMNRD ; DARRELL MOORE
Sent: Friday, April 04, 2008 10:56 AM
Subject: FW: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Dear Mr. Wise:

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However, during a recent site inspection (March 14, 2008) and in conjuction with a discharge permit renewal, a suggestion was made by Mr. Darrell Moore (Navajo Refinery) at (505) 703-5058 that the OCD should coordinate its efforts with the City of Lovington based on recent ordinances that it is or has implemented to protect the City of Lovington Well Field. Mr. Moore explained how the Lea Refinery is located with the City of Lovington's well field area. Navajo prefers to work with agencies in a coordinated fashion to promote efficiency in its operations and based on the OCD's experience at the Navajo Refinery, the OCD agrees. However, the City may not have the resources? The OCD would be glad to copy the City on refinery activities in the future.

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Thank you in advance for your consideration of this matter. Please contact me at your earliest convenience to express the City of Lovington's response based on the above information.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
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Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Price, Wayne, EMNRD
Sent: Friday, April 04, 2008 10:37 AM
To: Chavez, Carl J, EMNRD
Cc: Lovington, City of
Subject: RE: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Carl, make sure Mr. Pat Wise Lovington City Manager is in the loop.

From: Chavez, Carl J, EMNRD
Sent: Friday, April 04, 2008 10:00 AM
To: Price, Wayne, EMNRD
Subject: City of Lovington Well Field Contact for Discharge Permit GW-14 (Lea Refinery) Review Assistance

Wayne:

I think we discussed Darrell's request during the 3/14/08 facility inspection to include the City of Lovington in the permit review process and OCD permit related activities at the refinery. This was requested because he felt that the OCD and NMED's coordinated efforts were preferred to dealing separately with the agencies.

Could you please provide me with the name and phone number of the City of Lovington's contact? Thank you.

Carl J. Chavez, CHMM
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
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New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

April 7, 2008

Mr. Darrell Moore
Environmental Manager for Water & Waste
Navajo Refining Company- Lea Refinery
PO Box 159
Artesia, New Mexico 88211-0159

RE: DRAFT DISCHARGE PERMIT (GW-014)
NAVAJO REFINING COMPANY- LEA REFINERY

Dear Mr. Moore:

Pursuant to Water Quality Control Commission (WQCC) Regulations (20.6.2.3000 - 20.6.2.3114 NMAC), the Oil Conservation Division (OCD) **hereby approves** the discharge permit for the **Navajo Refining Company- Lea Refinery** (GW-014) located in the SW/4 of Section 31, Township 16 South, Range 37 East; the SE/4 of Section 36, Township 16 South, Range 36 East; the NW/4 of Section 6, Township 17 South, Range 37 East; and the NE/4 of Section 1, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, under 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 30 working 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 if 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.

If you have any questions, please contact Mr. Carl Chavez of my staff at (505-476-3491) or E-mail: carlj.chavez@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,

Wayne Price

Environmental Bureau Chief

LWP/cc
Attachments-1
xc: OCD District Office

ATTACHMENT TO THE DISCHARGE PERMIT
NAVAJO REFINING COMPANY, NAVAJO REFINING COMPANY- LEA REFINERY
(GW-014)
DRAFT DISCHARGE PERMIT APPROVAL CONDITIONS

April 7, 2008

Please remit a check for $8,400.00 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. **Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application shall be assessed a filing fee of $100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required $100.00 filing fee. However, the owner/operator still owes the required $8,400.00 renewal permit fee for a refinery.

2. **Permit Expiration and Renewal and Penalties:** Pursuant to WQCC Regulations (20.6.2.3109.H.4 NMAC), this permit is valid for a period of five years. **The permit will expire on October 30, 2011** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, 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. ***Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA1978} and civil penalties may be assessed accordingly.***

3. **Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.

4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its June 27, 2006, discharge plan renewal application with $100 Filing Fee, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

5. **Modifications:** WQCC Regulation 20.6.2.3107.C, and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger)

shall notify the OCD of any facility expansion, production increases or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. **Waste Disposal:** The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

A. **OCD Rule 712 Waste:** Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change. The following waste is hereby approved: solid waste (trash/refuse) and Calcium Silica.

B. **Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing. Storage areas shall be designed and constructed to allow for the separation of incompatible chemicals.

8. **Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

9. **Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms) with leak detection, which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal or within an approved schedule (see Section 20E). Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

10. Labeling: The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/ operator may use a tank code numbering system, which is incorporated into their emergency response plans.

11. Below-Grade Tanks/Sumps and Pits/Ponds.

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal or within a schedule submitted and approved within 3 months of permit issuance. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

B. All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting is not feasible, routine witnessing and/or discovery of dead wildlife and migratory birds shall be reported to the appropriate wildlife agency with notification to the OCD in order to assess and enact measures to prevent the above from reoccurring.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection upon request. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

12. Underground Process/Wastewater Lines:

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines

containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD. The OCD shall be notified at least 72 hours prior to all testing.

B. 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. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

13. Class V Wells: The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells must be permitted by the New Mexico Environment Department (NMED) if they inject domestic wastes only without treatment or disposal at the facility.

14. 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. All drains shall be fully functional, kept free of sediment buildup and debris to allow for proper drainage. The owner/operator shall maintain all records at the facility and available for OCD inspection.

15. Spill Reporting: The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days. Please note that major releases of reportable quantities may be subject to federal reporting.

16. OCD Inspections: The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections. Subsequent to the OCD's March 14, 2008 inspection of the facility where records were unavailable, the following requirements apply.

a. Unlined storm water retention/detention ponds (ponds down gradient from the facility) or drainage areas shall be lined. The owner/operator shall submit a

design and construction plan with schedule for implementation by September 30, 2008.

b. Submit updated on-site and off-site maps by December 31, 2008, showing the current status of all recovery, monitor, domestic, and irrigation wells, and any pertinent new refinery features (i.e., remediation system, new tanks, expansions, effluent pipeline(s), oil and gas transmission lines within and proximal to the property and ground water contamination, etc.) including the storm water basins or ponds in Section 16a above.

c. Construct another impermeable pad at the centralized chemical storage area similar to and adjacent to the existing one to separate incompatible chemicals by December 31, 2008. Owner/operated indicated that this was planned. All drums containing materials other than fresh water must be stored on an impermeable pad with curbing with separation of incompatible chemicals. Submit a drawing(s) that reflects the existing and new storage area in advance of construction activities.

d. Provide records of all below grade tanks/sumps with test data since 2002 by June 30, 2008. Note that all pre-existing sumps and below-grade tanks were to be tested to demonstrate their mechanical integrity every year since December 15, 2002. Records were unavailable during the inspection.

e. Provide records of all process/wastewater lines with test data since 2002 for underground process/wastewater lines by June 30, 2008. All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity no later than December 15, 2007, and every 5 years, from tested dated, thereafter. Records were unavailable during the inspection.

f. Provide proof of permit application and correspondence with New Mexico Environment Department- Ground Water Quality Bureau for septic system installation at the refinery by June 30, 2008. The septic system shall be installed by December 31, 2009. Class V wells that inject domestic waste that is not treated at the refinery must be permitted by the New Mexico Environment Department. Records were unavailable during the inspection.

g. Provide copies of all C-141 spill releases, since October 31, 2002. Identify releases where contamination was left in place (in the ground) or not removed as part of the spill release response. The OCD observed the last C-141 incident near Tank 1201D where the sump overflowed and diesel was released onto the ground migrating westward. The owner/operator informed the OCD that it recovered standing fluids, but left the contaminated soil in place so as not to exacerbate the contamination due to the cobble sedimentary deposits beneath the ground throughout the refinery. The owner/operator indicated that this was the norm for spill response. The owner/operator shall notify the OCD of the spill locations, dates, etc. for excavation of contaminated sediments followed by plans for disposal or treatment of excavated sediments by June 30, 2008.

All chemical spills shall be cleaned up using visual, ole factory, field PID (OCD procedures) with final laboratory samples (base and sidewalls of excavation) collected and analyzed at an analytical laboratory using EPA Methods. Analytical lab data shall confirm that contamination is cleaned up properly at the refinery and OCD shall approve each cleanup. The OCD may require further corrective actions based on the above.

h. All explosions, fires, etc., regardless of magnitude, duration, etc., shall be considered "Major Releases" under OCD Rule 116 and reported accordingly. The owner/operator shall cooperate with the OCD to ensure that all explosions/fires are tracked, recorded and corrective action(s) is taken to eliminate the recurrence and to protect human health, safety and the environment. The OCD shall assist by following up with the owner/operator to ensure that the refinery is working to address and find solutions to these type of problems as the situation warrants.

i. Provide any new waste streams as part of the permit renewal and future expansion plans for the refinery by June 30, 2008.

j. Maintain a non-vegetation zone minimum of one-hundred feet radius around any flare stack(s) at all times to prevent fires regardless of the season or weather conditions.

k. Immediately transfer all Lea Refinery records from the Artesia Refinery to the Lea Refinery so they will be available during inspections, site activities, etc. and made available to inspectors upon request. The discharge permit along with the requested refinery records were unavailable to the OCD Inspector at the time of the last inspection with an explanation that all Lea Refinery records are housed at the Artesia Refinery.

17. 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 from non-contact areas at the plant. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any storm water run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

18. Unauthorized Discharges: The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. ***An unauthorized discharge is a violation of this permit.***

19. Surface Water / Ground Water / Vadose Zone Monitoring/ Remediation/ Abatement:

The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000 - 4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports shall be a violation of the permit.

The owner/operator shall sample, analyze and report ground water contamination to the OCD and City of Lovington in accordance with state laws, and local government ordinances. All environmental analytical sampling and testing shall comply with Environmental Protection Agency Standards and Methods. Permanent and/or temporary monitoring and remediation changes must be approved in writing by the OCD.

A. Ground Water and Treatment System Monitoring: Ground water monitoring locations, sample frequency, and laboratory analytical methods are specified in the table below.

Location	Frequency	Measurement[1,2] / Analysis[3]
MW-1	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-2	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-3	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-4	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-5	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-6	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-7	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-8	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-9	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
MW-10	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
North MW	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
South MW	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
Lovington Well No. 9	Quarterly	General chemistry / VOC / SVOC / MTBE / WQCC Metals
RW-1	Quarterly	Measurement of product layer thickness, if present

1 Water table depth shall be measured at each well quarterly.
2 All MWs and RWs shall also be monitored for Separated Phase Hydrocarbon (SPH) & thickness (to nearest 0.01ft) recorded when present.
3. Lab methods shall be as follows: Gen. Chem. (300 & other approved methods); VOC (8260B); SVOC (8270/8310); MTBE (8260B) & WQCC Metals (6010).

B. Annual Ground Water Monitoring Report: An annual report shall be submitted to the OCD by September 1st of each year. The annual report shall contain:

a. Description of the monitoring and remediation activities, which occurred during the year including conclusions and recommendations or future work.
b. Summary tables listing laboratory analytical results (past vs. present), 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 shall also be submitted.

c. An annual water table (piezometric) surface elevation map(s) using the quarterly water table elevation of the ground water in all refinery monitor wells. A corrected water table elevation shall be determined for all wells containing phase-separated hydrocarbons. This map shall show well locations, pertinent site features (i.e., pipelines, effluent lines, etc.), and the direction and magnitude of the hydraulic gradient. All maps shall be to scale.

d. Plots of water table elevation vs. time for each ground water monitoring point from quarterly monitoring.

e. An annual product thickness map from quarterly monitoring based on the thickness of separated phase hydrocarbon (SPH) product on ground water in all refinery recovery and monitoring wells. This map shall include isopleths or iso-concentration lines for products and contaminants of concern.

f. The volume of SPH recovered per recovery well(s) during each quarter and the total recovered to date.

g. The quarterly and cumulative volumes of total fluids pumped from all recovery wells from quarterly monitoring to date.

h. Electronic filing: OCD would like to encourage Navajo to file quarterly data and the annual report in an acceptable electronic format.

C. **Vadose Zone Monitoring:** The following are additional requirements of the permit.

a. The owner/operator shall implement vadose zone cleanups from releases consistent with Section 16G above. All point sources of contamination shall be removed to eliminate surface water and ground water contamination threats to the environment and City of Lovington's ground water or drinking water protection area.

b. Verification of vadose zone remediation shall be documented and submitted to the OCD on a C-141 with attachments for OCD approval within the time frame specified under OCD Rule 116.

D. **Additional Requirements:** The following are additional requirements of the permit.

a. Navajo shall notify the OCD Santa Fe and local district office at least 2 weeks in advance of all scheduled sampling activities such that the OCD has the opportunity to witness the events and split samples. For large facilities, i.e., refineries, an annual notification will suffice.

b. Navajo shall notify the OCD within 15 days of the discovery of separated-phase hydrocarbons or the exceedance of WQCC standards in any down gradient monitor well where separate-phase hydrocarbons were not present or where contaminant concentrations did not exceed WQCC standards during the preceding monitoring event.

20. Additional Site Specific Conditions:

A. **Environmental Status Report:** Provide a monitoring and remediation status report or presentation to the agencies within 3 months of permit issuance to provide an update on the current ground water contamination, separated phase hydrocarbon (SPH) locations with thickness; isocon or isopleth maps (i.e., VOCs, SVOCs, MTBE, Gen. Chemistry; and WQCC Metals) that support the findings of the plan, report or presentation to the agencies (City of Lovington & OCD).

Also, provide ground water monitoring reports from MWs and RWs within 3 months of permit renewal, since the "Groundwater Monitoring & Remediation System Performance Report (Report) July 2001 – June 2002." This appears to be the last groundwater monitoring report submitted by Navajo to the OCD. At that time, Navajo was continuing quarterly monitoring with the next sampling event scheduled for September 2002. Navajo was continuing to investigate the occurrence of hydrocarbon product with additional work. Surface excavation in the vicinity of the API Separator and installation of additional SPH product recovery wells was also mentioned. According to the report, the leading edge of the benzene plume had reached the North refinery well and was impacting ground water at the drinking water standard of 0.005 mg/L. It was stated that the monitor wells are monitored quarterly for BTEX. The report also stated that the presence of SPHs at RW-1, MW-1 and MW-7 was troublesome. Navajo had performed extensive remedial work at the location to eliminate leaks from oil/water separator boxes. Possible remaining sources of the problem may be an unknown crude line in the area or delayed drainage of previously released oil through preferential pathways in the near-surface caliche.

B. **New Full-Time Automated Free-Product Recovery System:** A full-time designated Separated Phase Hydrocarbon (SPH) product recovery system shall be installed in RW-1 and other wells containing a significant thickness of SPH, on or before December 31, 2008 to remove and recover the source

of contamination from beneath the refinery. The SPH shall be routed to the API Separator for treatment to remediate contaminated ground water and to satisfy OCD conservation requirement to prevent the waste of recoverable energy resources.

C. **Records:** The owner/operator shall store all facility related records and documents at the refinery and make them available to the agencies upon request. The owner/operator shall develop a spreadsheet record that contains all underground tanks/sumps/pits/process & sewer lines. Each system shall have an identification, drawing reference, date installed, test dates, test method, pass/fail/repair information with signature, and investigation results w/ date of resolution, if applicable. Navajo shall test at a minimum 20% of the total below grade devices each year.

D. **Chemical Storage Area:** The owner/operator shall submit a design and construction plan with schedule for implementation of a centralized chemical storage area with berms and secondary spill containment. The storage area shall be designed to separate Incompatible chemicals. Drums or totes containing chemicals stored on the ground are considered a violation of this discharge permit.

E. **Above Ground Tanks:** All new and existing above ground tanks containing chemicals must be placed or retrofitted over an impermeable pad (60-mil LLDPE with leak detection system is recommended or liner approved by the OCD) within a bermed secondary containment area. The bermed areas shall be constructed to store one and one-third of the volume of the largest tank and/or total volume of all interconnected tanks in a tank battery area. Alternative secondary containment designs must be approved by the OCD.

The owner/operator shall submit a work plan identifying all tanks (Tank ID #, type of tank, new/used, volume, chemical stored, tank age, last Integrity test date, planned retrofit date and/or construction date, etc.) at the facility. The owner operator shall prioritize existing tanks for retrofit based on the toxicity of chemicals (highly soluble and mobile BTEX chemicals), public health and safety. A work schedule with a phased approach extending beyond the standard 5-Year permit period must be approved by the OCD on or before June 30, 2008.

21. Evaporation Ponds: All wastewater discharged to ponds shall be demonstrated that it meets the definition of EPA RCRA Non-hazardous pursuant to 40 CFR 260-261. A minimum freeboard of two feet shall be maintained in the ponds so that no over topping of wastewater occurs. Any major repairs or modifications to the ponds or leak detection systems must receive prior OCD approval. Any exceedance of the freeboard or any leaks or releases shall be reported pursuant to Section 15 (Spill Reporting) above of these conditions.

A. **Existing Refinery Ponds:** Evaporation ponds shall be constructed with secondary containment and leak detection systems. All evaporation ponds shall be

upgraded to OCD secondary containment with leak detection by December 31, 2008.

B. Pond Inspections: Evaporation ponds shall be inspected at a minimum three times per week and after any major storm event. Weekly records shall be maintained for all flow rates from all flow meters, fluid levels, freeboard, seepage, flow channels, pipes, valves, and dike integrity.

C. Pond(s) Water Quality and Quantity Monitoring: If applicable, surface water shall be observed, sampled and analyzed as requested from the OCD. In addition, all wastewater from the refinery or other sources entering ponds shall be metered and records maintained and reported in the Annual Ground Water Monitoring Report.

E. Temporary ponds: Any ponds that were previously approved shall be identified and owner/operator shall submit either a closure plan for OCD approval by September 01, 2008 or have them lined with secondary containment leak detection by December 31, 2008.

22. Annual Report: On an annual basis due September 01, Navajo shall submit a formal report to the OCD on the past year's activities. The report shall include the following at a minimum:

A. A summary of all major refinery activities or events.

B. Results of all sampling and monitoring events.

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

D. Summary of the sump and underground wastewater lines tested.

E. Summary of all leaks, spills and releases and corrective actions taken.

F. Summary of discovery of new groundwater contamination. This should include recommendations for investigation and remediation.

G. Summary and Copies of all EPA/NMED RCRA activity.

23. Transfer of Discharge Permit (WQCC 20.6.2.3111): Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transfer or shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee. Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the

OCD's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

24. Closure and Financial Assurance (20.6.2.3107A (11) NMAC): The owner/operator shall notify the OCD when operations at the facility are to be discontinued for a period in excess of six months. The owner/operator shall submit a closure plan inclusive of any ponds, etc. for OCD approval.

A closure plan to prevent the exceedance of standards of Section 20.6.2.3103 NMAC or the presence of a toxic pollutant in ground water after the cessation of operations, which includes: a description of closure measures, maintenance and monitoring plans, post-closure maintenance and monitoring plans, financial assurance for the entire facility, and other measures necessary to prevent and/or abate such contamination is required by October 10, 2007. The obligation to implement the closure plan as well as the requirements of the closure plan, if any is required, survives the termination or expiration of the permit. Closure and waste disposal shall be in accordance with the statutes, rules and regulations in effect at the time of closure.

25. Certification: Navajo Refining Company, by the officer, whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained herein. **Navajo Refining Company** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

_____
Company Name-print name above

_____
Company Representative- print name

_____
Company Representative- signature

Title_____

Date:_____